PERIODICAL ROOM DEC 22 1926
GENERAL LIBRARY

INFANTRY JOURNAL

THIS ISSUE

Automatic Arms Design
Thoughts on New Developments
The Military Instructor
French War Doctrines and Plans
Exercise Versus Imagination
The Cause and Prevention of Colds
Supply and Distribution of Ammunition
Clothing for the National Guard
The Tank in the World War

The UNITED STATES
INFANTRY ASSOCIATION
WASHINGTON, D. C.

NOVEMBER, 1926

Steele's American Campaigns

¶ *The price is $10 a set, but we will be glad to send the two volumes now and accept payment on the installment plan.*

¶ *Send us $2.00 with your order and pay the balance of $8.00 in monthly installments of the same amount.*

United States Infantry Association

Washington, D. C.

The History of the

UNITED STATES ARMY

By

WILLIAM ADDLEMAN GANOE

Major of Infantry, U. S. A.

Tells a plain, straightforward story of the homely and heroic service of the soldier in the sweat of peace as well as the ruck of war from 1775 to the present. Cloth, 609 pages.

"Major Ganoe's history of the United States Army is a timely publication," says *The New York Times Book Review* in the course of a two-page review of this book.

Price, $5.00

United States Infantry Association

Infantry Building Washington, D. C.

INFANTRY JOURNAL

Vol. XXIX NOVEMBER, 1926 No. 5

PUBLISHED MONTHLY BY THE UNITED STATES INFANTRY ASSOCIATION, INFANTRY BUILDING, WASHINGTON, D. C. EDITOR, MAJ. PAUL J. MUELLER; MANAGING EDITOR, G. H. POWELL. COPYRIGHT 1926 BY THE UNITED STATES INFANTRY ASSOCIATION. ENTERED AS SECOND CLASS MATTER AT WASHINGTON, D. C., UNDER THE ACT OF MARCH 3, 1879. ACCEPTANCE FOR MAILING AT SPECIAL RATE OF POSTAGE PROVIDED FOR IN SECTION 1103, ACT OF OCTOBER 3, 1917, AUTHORIZED AUGUST 3, 1918.

CONTENTS

AUTOMATIC ARMS DESIGN ..... M. H. Thompson 473

THOUGHTS ON NEW DEVELOPMENTS ..... Maj. Owen R. Meredith, C. W. S. 489

THE MILITARY INSTRUCTOR ..... Capt. Francis G. Bonham, Inf. 493

FRENCH WAR DOCTRINES AND PLANS ..... Lt. Col. J. M. Scammell, Cal. N. G. 502

EXERCISE VS. IMAGINATION ..... A Tired Army Man 515

CAUSE AND PREVENTION OF COLDS ..... Maj. A. P. Clark, G. S. (M. C.) .. 518

SUPPLY AND DISTRIBUTION OF AMMUNITION .. Maj. L. D. Davis, 3d Inf. 526

CLOTHING ALLOWANCE FOR NAT'L GUARD ... Col. D. John Markey, Gen'l Staff 528

THE TANK IN THE WORLD WAR ..... Capt. George H. Rarey, Inf. 532

NOTES FROM THE CHIEF OF INFANTRY 539

EDITORIAL COMMENT 546

The New Chief of Staff—The Development of Infantry Weapons—The Spirit of the Army—A New Song Contest Announced—Proof of the Pudding—Fund for a Rifle Team—Thrift as an Asset to Morale—Keeping Physically Fit.

REVIEWS AND DISCUSSION 553

Will the Airplane Supplant the Cavalry?—Infantry's Artillery in Modern Armies—National Defense First—Then Pretty Pansy Beds—For a Record of Training.

REGULAR ARMY INFANTRY ACTIVITIES 559

ITEMS ON THE NATIONAL GUARD 567

RESERVE OFFICERS' DEPARTMENT 576

MILITARY NOTES ON FOREIGN ARMIES 584

NOTES ON THE INFANTRY ASSOCIATION 588

THE UNITED STATES INFANTRY ASSOCIATION:

Officers 590

THE SUBSCRIPTION PRICE OF THE INFANTRY JOURNAL IS $3.00 PER YEAR. SINGLE COPIES 50c. SUBSCRIBERS SHOULD NOTIFY US PROMPTLY OF FAILURE TO RECEIVE THE INFANTRY JOURNAL. **The address of subscribers is not changed except upon request.**

THE PUBLICATION COMMITTEE IS ALWAYS GLAD TO CONSIDER ORIGINAL ARTICLES OR MATTER THAT HAS NOT APPEARED ELSEWHERE IN PRINT OF POSSIBLE INTEREST IN THE INFANTRY JOURNAL'S FIELD.

ALL CORRESPONDENCE SHOULD BE ADDRESSED TO THE SECRETARY.

IT IS REQUESTED THAT AUTHORS DOUBLE-SPACE ALL TYPEWRITTEN MANUSCRIPTS.

THE INFANTRY JOURNAL PAYS FOR ORIGINAL ARTICLES ACCEPTED FOLLOWING PUBLICATION.

THE INFANTRY ASSOCIATION IS NOT RESPONSIBLE FOR OPINIONS EXPRESSED IN PUBLISHED CONTRIBUTIONS.

THE UNITED STATES INFANTRY ASSOCIATION

INFANTRY BUILDING WASHINGTON, D. C.

Buy a copy of

Ludendorff's "Own Story"

at a bargain price and follow Napoleon's advice to read the biographies of great generals.

Two handsome volumes in case. Large 8vo, 950 pages. Published at $7.50.

Yours for $3.50, postpaid

U. S. Infantry Association 1115 17th Street, Washington, D. C.

Field Service Regulations 1923

Revised by the General Staff

Published for the information and government of the Army of the United States in the theatre of operations.

Basis of instruction of the combined arms for war service.

Designed especially for the government of the operations of large units, and of small units forming a part thereof.

Limited to the theatre of land operations.

Cloth bound - - $1.25
Paper bound and punched .80
(For Kalamazoo Binder)

U. S. Infantry Association
Washington, D. C.

Cadence System of Close Order Drill

By Maj. Bernard Lentz

A new edition of an established system of Infantry Training

This revision is based on the new Training Regulations and is in full accord with them

It has always had a steady sale and those who have previouly purchased copies will want the revised and up-to-date edition. Paper cover.

Price 75 Cents

U. S. Infantry Association
1115 17th St. Washington, D.C.

Map Maneuvers and Tactical Rides

By Maj. Farrand Sayre
5th Edition

Not a new work but a valuable one. Gives plans for conducting operations with simulated forces.

Where two or three Reserve Officers are gathered together they can enjoy the maneuvers and get much practical benefit. Published at $1.50.

Try one copy at 75 cents

U. S. Infantry Association 1115 17th Street, Washington, D. C.

MAJOR GENERAL CHARLES P. SUMMERALL

NEWLY APPOINTED CHIEF OF STAFF OF THE UNITED STATES ARMY

INFANTRY JOURNAL

Vol. XXIX NOVEMBER, 1926 No. 5

Automatic Arms Design

By M. H. Thompson[1]

THE value of portable automatic arms for military purposes has become more firmly established, along with a better understanding of their correct tactical employment. Progress in the adoption of fixed, light, portable types has been retarded in the past, not only by the inertia that accompanies military conservatism in general but, more important still, by the mechanical difficulties involved in design.

> **In our Army, the problems of satisfactory mechanics and of correct tactical usage of semi-automatic shoulder weapons still remain without accepted solution**

Following the introduction of Maxim's heavy machine gun, the first few years were mostly devoted to the mechanical and tactical development of the heavier types. It is only in recent years that serious efforts have been directed toward the development of lighter and more portable weapons for use by the Infantry.

The importance of heavy machine guns was slow to be realized, mainly due to a lack of understanding of their best tactical employment. History shows almost every new weapon to have had its development retarded by putting it to improper tactical uses. In fact, this conservatism of the military can be traced to weapons other than small arms. It required more than three centuries to change the bombard of the Middle Ages into the 18th Century field gun, and it was another hundred years before these guns were worked in batteries.

If we are to realize the advantage of light, portable, automatic weapons, it is not alone sufficient that their mere mechanisms should be understood or that they should be used in the same manner as the displaced weapons. The advantages that the mechanism permits in gaining superiority of fire should be utilized to the fullest extent in new tactical dispositions and arrangements.

One of the greatest obstacles in the development of portable automatics has been the argument by a certain class of military men that the soldier already wasted too much ammunition with his hand-loaded rifle and that the demand for ammunition is made so great by the use of automatics as to make them impracticable. In fact it was upon this plea before the World War that the use of machine guns in the American Army was minimized. It was only after the correct employment of machine guns and automatic arms by the Germans, that the Americans made full provision

[1] Formerly Lieutenant Colonel, General Staff, A. E. F.

for their extended use. In the retreat of the Germans before the superior numbers and morale of the American Army in the Meuse-Argonne operation, a comparatively small number of German troops were utilized in a rear guard action to impede the progress of the whole American Army. The losses on the German side were correspondingly fewer. This disparity in losses was partly the result of the attempt by the Americans to obtain fire superiority over isolated units of German automatic riflemen by massing heavy, thick lines of troops armed with *hand-loaded* weapons.

On the subject of ammunition supply, the present Chief of Ordnance, Maj. Gen. Clarence C. Williams, after recounting the difference in the rounds of field artillery ammunition used in one day's fight at the Battle of Gettysburg to one day's ammunition expended at the Battle of St. Mihiel, declared: "It is the duty of the supply departments to see that the fighting troops are supplied with the things which they need, of proper quality, in the quantities required, when and where required." This statement is significant as compared to the old idea of the confessed inability of supply departments to keep up with the requirements of a modern equipped army in the field.[2]

GERMAN USE OF AUTOMATIC WEAPONS

The modern idea of the replacement of man power by machine power in industry is equally applicable to the military through the introduction of automatic arms. The Germans first realized the importance of machines for securing intensity of fire by providing thousands of automatic guns and knowing how to employ them tactically. Ludendorff admits that the Germans were beaten by the fall of 1917, but made up for the lack of reserve of man power by using large numbers of machine rifles permitting fewer men on the firing lines, thus affording fewer targets. The displaced men were formed in the rear as reserves. The principle of intensity of fire, i.e., hits per minute, has never been highly developed in the United States as shown by the fact that our entire program before the war for such fire comprised only 2,000 machine guns.

After the great war the military powers began a close study of the proper employment of automatic arms coupled with a vigorous attempt for the mechanical development of appropriate weapons. In other words, effort was made and is being made to evolve an arm based on ideal tactics.

CLASSIFICATION OF AUTOMATIC WEAPONS

Generally speaking, automatic guns and rifles firing high-powered ammunition may be classified as follows:

First:

a. Heavy automatic machine guns
b. Light automatic machine guns
c. Automatic machine rifles
d. Semi-automatic rifles.

Secondly: Automatic arms that do not fire high-powered ammunition—

a. Sub-machine guns firing nominal pressured rifle cartridges
b. Machine pistols firing pistol ammunition
c. Automatic pistols
d. Automatic shot guns.

Considering the first class, heavy au-

[2] Maj. L. D. Davis, in the article, "Some Reductions," in the July INFANTRY JOURNAL, and also in the present number, discusses ammunition supply.—Ed.

tomatic machine guns have now firmly established their position as a standard weapon for military operations. The mechanical state of their development is still open to improvement although great advancement has been made in the mechanical perfection of their breech mechanisms. By exercise of proper care and intelligence, very satisfactory mechanical functioning can be secured from the best class of these weapons.

On account of the accuracy which is now essential in the tactical use of heavy machine guns for long-range barrage work with sights graduated in mils and other tactical employments, it is doubtful if the weight of heavy machine guns will ever be reduced below the present total weight of the gun with tripod of from 50 to 100 pounds. This is due to the fact that the enormous recoil resulting from full-automatic fire would seriously injure correct aiming and sighting by reason of vibration and displacement of the mounting, if the gun with its tripod was of too light construction. The feeding of heavy machine guns requires large magazines or heavy belt boxes and it is possible some method of improvement in the future machine gun may occur by simplifying these accessories by reducing their weight and size and by the invention of new methods of feeding.

There is no doubt that the adoption of automatic oiling of the mechanism will considerably improve the action of machine gun breech closures. Strange to relate, though the machine gun can be considered as a gas engine, no provision has been made for the proper lubrication of these engines following accepted principles of today such as in automobile engineering. As the matter now stands an ordinary squirt oil can is used. There is an American designer who has incorporated this important principle of automatic lubrication in some important designs that are now under advisement by various governments.

The Place of the Heavy Machine Gun in the Organization and Tactics of all Armies is Well Fixed

The employment of the heavy automatic machine gun has finally become fully understood and its tactical uses have become practically standardized throughout the armies of the important powers after a long period of extremely slow tactical development.

LIGHT AUTOMATIC MACHINE GUNS

The light automatic machine gun is primarily for use at the shorter ranges as compared to the long-range barrage

use of the heavy automatic machine gun. The weapon is stocked for firing from the shoulder and the barrel is supported by a bipod. In order to secure accurate full-automatic fire from these weapons it is essential that their weight be not under 20 pounds by reason of the great recoil deranging the arm when using high-powered military cartridges. Various attempts have been made in designs to secure satisfactory results with full-automatic fire with weapons weighing less than 20 pounds but after various extensive tests and governmental trials it has been declared impracticable by the best authorities. As a result no intelligent present-day war office will consider a weapon for full-automatic purposes that is not sufficiently heavy.

The Hotchkiss light machine gun is designed for firing full-automatically at a rate of 60 shots per minute for a period of five minutes. In order to keep the weight down in this design the barrel is necessarily light. It is of the finned variety in order to facilitate air cooling, and weight for weight the barrel is one of the best designed. It is to be noted that the rate of full-automatic fire is 60 shots per minute; a rate than can easily be attained by semi-automatic fire in new types of semi-automatic rifles that are 50 per cent lighter than the 24-pound Hotchkiss gun. It is understood that the rate of fire of 60 shots per minute was prescribed by the French tactical requirements, but this decision must have been as a compromise to the heat life of the barrel required for automatic firing considered in conjunction with the weight which the French desired to carry in this type of gun.

There are many military minds of the present day who are of the opinion that a lighter semi-automatic type of weapon attaining the same rate of fire as the Hotchkiss light machine gun, and allowing a specific aimed shot for each target while attaining the same rate of fire and having even heavier barrels than the Hotchkiss, is a more desirable gun.

Light automatic machine guns are, of course, more mobile than heavy machine guns and can be satisfactorily designed to function well by reason of their heavy weight allowances. They are not accurate at longer ranges, however, and their light barrels do not allow continuous full-automatic fire for very long intervals. With the present day requirements of the Infantry for handling various weapons of war, the elimination of as many different types of weapons as can be possibly made is essential. For this reason this intermediate type of weapon is being discarded by some military powers.

THE LEWIS GUN

Another type of the light machine gun is the well-known Lewis gun adopted by the British Army. This gun employs a unique method of cooling the barrel by drawing in currents of air such as employed in cooling gasoline engines on automobiles. Despite this device and other mechanical devices to improve the heat life of barrels of light automatic machine guns, it would appear that the problem has not been solved nor is it likely to be solved in the immediate future. In order to secure a sufficient heat life of barrels to withstand the rigors of full-automatic fire the barrel has to be made necessarily heavy, thus bringing the total weight of the gun up to the weight of the heavy machine gun and thus increasing the weight beyond that which

The Chauchat Light Machine Gun Used in the World War

This weapon, of French design, was not popular with the American troops because of its serious deficiencies

could be carried by the personnel usually assigned to light machine gun work. Or, on the other hand, some extraneous mechanical apparatus for cooling increases the total weight of the gun so as to similarly or nearly transfer it to within the limits of weight of the heavy machine gun class. Under these circumstances a standard weapon of the heavy type is considered much more desirable even if a little more bulky or troublesome to handle and transport. For this reason there is a fixed and growing prejudice against the light machine gun type of weapon for military purposes with the end in view of substituting light and heavy semi-automatic rifles to be used in conjunction with and backed up with the standard heavy machine gun.

LOW-POWERED FULL AUTOMATIC GUNS

Interesting data as the result of tests held by the various armed powers have tended to confirm and establish this theory. If tactical requirements show necessity for weapons to be used full-automatically on the battle line and to be easily and quickly transportable to points inaccessible for heavy machine guns and requiring too prolonged full-automatic fire for light machine guns, there have been advanced developments of recent date which employ the full-automatic weapons using lower powered ammunition. One of the notable examples of this theory has been the appearance of what is known as the "submachine gun." It is the contention of some that full-automatic fire (except heavy machine gun fire) is a military necessity only on special occasions and at the closer ranges from 500 yards down and that such class of fire is only employed by troops in advanced positions close to the enemy.

Basically, the question of the employment of low-powered full-automatic

versus high-powered full-automatic arms is a question of tactical anticipation of closed warfare methods as contrasted to open warfare methods. Some armed powers, particularly the United States, do not take into full consideration closed warfare methods such as were used throughout the World War. It can only be stated here that there have been no grand operations occurring in the past, in which closed warfare did not play some part in the operations. It would be undeniably true that in case of participation in closed warfare operations that the low-powered full-automatic machine rifle, due to its mechanical superiority and lack of recoil, would be of great value, whilst at the same time its use would be extremely limited in open warfare.

MACHINE RIFLES

We now come to a class of portable arms known as the machine rifle. Probably the best known machine rifle is the Browning, adopted by the American Army. The machine rifle violates the fundamental principle that in order to secure accurate full-automatic fire a gun should weigh at least twenty pounds. This, by reason of the great force of recoil of the high-powered automatic cartridge when fired full-automatically deranging the aim and wasting ammunition. As a result the U. S. Army automatic machine rifle regulations state that the Browning machine rifle, which weighs 16 pounds with light barrel, shall not be used full-automatically at ranges over one hundred yards. The heat life of the barrel for continuous full-automatic fire in a machine rifle is necessarily small, for if the barrel is increased in weight to prolong its life (and by life we mean the continuous rounds that can be fired at any one time without overheating) the weight of the extra heavy barrel carries the gun into the light machine gun class. In fact in most portable automatic arms mechanisms, the classification mainly depends upon the weight of the barrel used and the stocking in conjunction with the method of mounting, whether by heavy tripod or light bipod. If, therefore, we are to have a weapon as heavy as the light machine gun, very inaccurate when fired full-automatically and with very limited life of barrel for the number of rounds that can be fired without overheating, it is apparent that this type of weapon, which was hastily devised and thrown into the battlefield to fill the gap for need of full-automatic fire, will not stand the test of time.

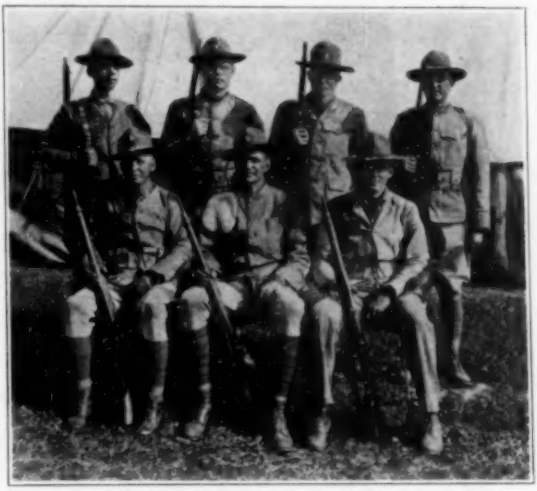
MECHANICAL PROBLEMS INVOLVED

In any discussion as to the merits and advantages of automatic and semi-automatic fire, it is essential to touch upon the mechanical problems involved in the design of weapons intended for such use in conjunction with other important limiting factors such as weights and ammunition supply. It is often noted that these two methods of firing are included in modern tactical plans as if their ideal delivery was an accomplished and possible fact. But investigation will show that there have been no light, portable, automatic weapons in the past capable of perfectly delivering high-powered automatic and semi-automatic fire. There are certain mechanical considerations which seriously interfere with the design of such weapons. The question therefore resolves itself into a problem of proportion, that is, a proportion between the ballistics desired on one hand and

the weights to be carried, the heat life of the gun barrel, and the amount of recoil practicable on the other. The higher the velocities and pressure of the ammunition, the more unfavorable become the other considerations of weight, recoil and heat life.

LOWER PRESSURE CARTRIDGE

It is evident that by using a lower pressure cartridge, the recoil and the heat are not so great. By taking low pressure and velocity cartridges, accurate full-automatic fire can be secured up to the maximum range of the ammunition used because of the reduced recoil. In addition, an almost indefinite number of rounds can be fired because of the small amount of heat. But on the other hand, the flatness of trajectory is sacrificed and the range of such a weapon must be comparatively short as compared to high-powered ammunition. It is therefore incumbent upon the military to determine in a light, portable, full-automatic weapon just what degree of accuracy is desired in conjunction with and proportionate with the lowest chamber pressure and velocity that is consistent with the ranges desired. Such a selection requires a fine sense of proportion and accurate knowledge of tactics coupled with a knowledge of the absolute, limiting mechanical factors of heating effect and weight. The reduction of the pressure and the velocity of the cartridge also correspondingly reduce the weight of the weapon and the weight of ammunition to be carried and thus more ammunition can be used and carried by the soldier than if high-powered cartridges are employed. However, armies are traditionally reluctant to use any cartridge that sacrifices range and which would place them at the mercy of an enemy with long range cartridges. A supply of this special low-powered ammunition at the front would complicate an already difficult supply problem.



Reliability is the Strongest Argument for the Springfield Rifle

Its accuracy in the hands of American riflemen is known the world over. The above picture is that of the 8th Infantry's rifle team that won honors at the recent Sea Girt matches.

The designer then turns to the problem of maintaining the range and velocity of the cartridge by reducing the caliber and thus reducing the weight of the bullet.[3] By this method recoil can be reduced somewhat and the barrel will allow of a few more continuous shots to be fired without overheating

[3] See Editorial, April INFANTRY JOURNAL; and articles "The Reduction in Caliber," by Lieut. Col. Townsend Whelen, and "Some Small Arms Questions," in May INFANTRY JOURNAL.—Ed.

as compared to the greater caliber cartridge. By determining the duration of time that could reasonably be desired for such a weapon to be in action and knowing the rate of fire of the weapon, the number of cartridges that would be used during that period could be computed. A caliber small enough to come within the limits of the problem can thus be chosen. However, assuming any reasonable length of time for continuous action there would, in the last analysis, be required a caliber of such small dimensions as to make the bullet too small and light to be satisfactory for military purposes. Here the problem is capable of a solution by compromise.

SEMI-AUTOMATIC RIFLES

The trend of events since the war has shown that the light machine rifle is a weapon that is soon to be eliminated in favor of what are known as light and heavy semi-automatic rifles. It is true that the light machine rifle can be fired semi-automatically but in most cases it has been necessary to devise a mechanism for full-automatic fire in the machine rifle such that the heavy bolt comes forward with a jerk, deranging the arm when the piece is fired semi-automatically. The result is that the average light machine rifle is not an accurate arm for separate aimed shots and in fact some types do not even possess a sight for deflections, as such errors are inappreciable when compared to the great error of derangement of aim due to the mechanical imperfection of holding the aim of the piece. On the other hand, semi-automatic rifles are very accurate as they are specially designed to fire single aimed shots.

It has been found by the elimination of the automatic mechanism that semi-automatic features can be incorporated, thus doing away with the forward jerk of the bolt coming into the locked position and greatly lessening the weight of the piece to be carried by the soldier and at the same time providing a piece that is more accurate, less complicated and more dependable. In addition, by limiting the fire to semi-automatic, the contention of those protesting against the enormous ammunition supply required for automatic guns in the field is somewhat placated.

It is also possible to place heavier barrels on semi-automatic mechanisms to such an extent that the continued heat life of the barrel is, in some cases, 50 per cent greater than the heat life of the barrel used in the full-automatic machine rifle type while at the same time the semi-automatic type remains from 20 to 40 per cent lighter. In these days when the general staffs of the armed powers are exerting every energy to reduce the weight to be carried by the soldier in the field by ounces, the consideration of saving several pounds in the weight of the weapon to be carried by the Infantry's automatic rifleman is of importance, particularly to the man who has actually to carry that weight.

In the abandonment of the machine rifle for the lighter semi-automatic rifle there has been a contention by at least one well-known authority, who was partly responsible for the introduction of the machine rifle, that the advantages of the semi-automatic type, namely, more accuracy, more continued fire, heat life of barrel and 20 to 40 per cent saving in weight—would not justify the expedient of discarding the machine rifle on account of the great expenditure involved. However,

it is not seen how one arm can prove superior to another arm by many more advantages than above enumerated. Accuracy increases fire intensity or hits per minute which, considered in conjunction with a great reduction in weight to be carried by the soldier and the prolongation of his sustained fire power, is of extreme importance. Generally speaking, these considerations are paramount with a line soldier and in the end the judgment of those in the field usually obtains in the selection of equipment for the modern army rather than by the military mechanical engineer.

OPERATION OF SEMI-AUTOMATICS

The primary engineering problem in the development of a semi-automatic self-loading military rifle has been to keep the weight of the rifle under ten pounds and at the same time to provide a sturdy automatic mechanism capable of withstanding the 50,000 pounds-per-square-inch chamber pressure of the high-powered military cartridge.

In the past self-loading automatic arms have been operated in one of three standard ways, viz.:

1st—The blow-back of gases against the head of the bolt.

2nd—A gas operated piston which is connected with and operates the bolt.

3rd—By the force of recoil.

The objection to the first of these systems has been that the blow-back does not lock the bolt to the chamber at the instant of firing and consequently cannot fire high-powered cartridges. If a sufficiently heavy mass was used for high-powered firing the block itself would weigh more than the prescribed limit of ten pounds for the complete gun itself. This system is used for lower powered cartridges for sporting purposes but is entirely discarded by the military. The blow-back is not only unsafe but at the same time causes a racking effect on arms to the extent of any breakages and generally decreases the life of the mechanism. In addition, blow-back mechanisms are mostly on the straight pull principle—another principle which has been discarded by various gun experts throughout the world as being basically unsound in its practice even for hand arms. In this regard, we might refer to the well-known Ross rifle; a very satisfactory arm for peace purposes and which was adopted by the Canadian Forces previous to and at the beginning of the World War. This weapon when put to extended use in the field was the cause of tragedy for the Canadian troops. The soldiers soon found that the bolt stuck and extraction became most difficult by reason of the bolt pulling straight back from the cartridge instead of having a rotary camming effect to start the cartridge to the rear.

It cannot be seen how any portable automatic arm can be expected to be successful in extended use for war when based upon this unsound theory of gun design, although there are some inventors now attempting the solution of the problem by the employment of this principle long discarded by experts even for the much easier problem of hand-loaded extraction. Modern hand-loaded arms turn the bolt to extract, which gives a camming or lever on the cartridge rim by turning the bolt handle. This is an important principle, which is highly desirable in both hand-loaded and automatic portable small arms design. The difficulty of feeding more than five cartridges in automatic straight pull rifles by reason of bolt

friction on the uppermost cartridges contained in the magazine is an added deterrent to this type of mechanism. The reply that the military do not desire more than five-cartridge magazine capacity does not help solution of the problem.

GAS OPERATED MECHANISMS

Gas operated automatic actions have been discarded generally by military governments as offering a means of solution of the light automatic, shoulder rifle problem. The necessary piston, arm links and connections of this form of breech mechanism bring the weight of the gun above the prescribed limit of ten pounds weight. Besides, this form of mechanism, unless provided with a heavy-weight bolt to furnish the necessary inertia for extraction of the cartridge, has never been made to function satisfactorily for military purposes.

As is generally conceded, recoil systems furnish the best possibilities for development of a satisfactory automatic mechanism for portable arms. Some of the adaptations of this system move the barrel and frame for the sole purpose of unlocking the bolt which performs no useful function after unlocking is accomplished. The greatest objection, however, to these forms of the recoil system, namely, the recoil of the barrel or frame to the rear, is the fact that the movement of the barrel or frame starts more or less before the bullet has left the barrel tube and thus is a cause of inaccuracy by providing a moving carrier for a moving bullet at the instant of aimed fire.

To the above three systems may be now added the universal system of breech closure that is well adapted for all classes of automatic arms, including pistols, submachine guns, light and heavy semi-automatic rifles, machine guns, airplane machine guns and probably, although not at present developed, an adaptation for auto-loading cannon. This system consists of a wedge slidably located in the bolt which of itself and without other accessories constitutes a self-acting lock and release. At the instant of firing until the bullet has left the bore this wedge maintains the bolt locked to the chamber. At some instant after the bullet has left the bore the wedge follows the laws of physics concerning an inclined plane and automatically slides out of place thus allowing the residual pressure to push the free bolt back to its rearward position from whence a spring completes the cycle by pushing the bolt forward and home. By this system a complete automatic breech action is developed by a single piece of metal weighing a few ounces as compared to the numerous and complicated pieces of mechanism required for gas and other systems. The wedge or its mechanical equivalent, the screws, allows of a saving of weight and the development of portable arms within prescribed weight limits. Arms based on this system are many pounds lighter than those that have ever before been possible.

THE EXTRACTION PROBLEM

Experience in the past by inventors of light portable automatic arms has been so discouraging that hope for success in this field had been generally conceded to be impossible of accomplishment. However, with the advent of this wedge principle, commonly known as the "Blish principle," as first conceived by the late Commander John Blish, U. S. Navy, and further

developed by General John T. Thompson, Director of Arsenals in America during the World War, the light semi-automatic shoulder rifle, firing the high-powered military cartridge has been made possible.

The paramount difficulty involved in the accomplishment of a light portable automatic rifle has always been the extraction problem. In fact, the extraction problem and the weight problem have been so interdependent as to form an almost insurmountable barrier. This is true by reason of the fact that a high-powered military cartridge after being fired requires a varying and heavy force to pull the empty case out of the chamber. The required force varies to such an extent as to require 500 per cent greater force for one cartridge than for another. That is to say that in the same caliber and lot of cartridges, some will extract easily and others will stick to such an extent as to require almost a machine operation to pull them out. It is also true that different lots of cartridges vary considerably in sticking in the chamber, depending on the softness or hardness of the metal cases of the cartridges. Heretofore there was only one way which human ingenuity could devise to overcome this sticking and adhesion of the cartridge cases to the chamber after the cartridge was fired. By providing a bolt of great weight the small partial movement to the rear of a sticking cartridge gave an impulse to this great weight such as enabled it by the force of its inherent inertia to complete the pull of the cartridge to the point of extraction. The result was that all arms that approached any degree of satisfactory breech action were well over fifteen pounds by reason of this necessarily heavy bolt, a weight prohibitory for military shoulder rifle usage. The enlarging of the chamber space for the cartridge resulted in very small beneficial results as well as seriously affecting the accuracy of the cartridge by reason of its loose seating.

Since the rearward movement of the cartridge cases after firing constitutes the moving and generating member of recoil operated mechanisms, it is a surprising fact that small arms engineers expected satisfactory functioning of such a machine unoiled and unlubricated. To attempt this feat in an ordinary gas engine such as used in the modern automobile would be too ridiculous to be contemplated. Yet in the modern automatic arm, which is a form of gas engine with frictions and pressures many times greater than those known to the automobile, the automatic oiling of the cartridges themselves was slow to be realized as the only practical solution of perfect extraction.

Another important improvement in automatic design consists in providing such automatic oiling for arms that the bolt touches a wet oil pad after each recoil rearward. In the past, due to weight limitations, no such provisions were possible. Such a course by proper lubrication of the proper parts at the proper time insures a greatly improved certainty of action in all automatic arms, as it similarly does for all machinery.

REDUCTION OF CALIBER

The reduction of the caliber of the cartridge to below caliber .30 for semi-automatic purposes is a very alluring proposition to designers since they are enabled to make a much lighter gun and for tactical purposes it appeals to the Army at large since more rounds of ammunition can be carried. It is

also possible to load more cartridges at one time into the magazine, namely, a clip of 10 instead of 5. To load 10 caliber .30 cartridges into the magazine against the heavy magazine spring in standard automatic designs is a problem which has not yet been solved in any country in the world. There is the Swiss cartridge packet which goes above the ordinary five-cartridge clip. This packet is a practicable proposition being made of papier-mâché but more than six cartridges of large caliber have so far proved impracticable.

However, when we turn to the stopping power of a reduced calibered bullet we go up against a very serious difficulty. Though it is true that force or the stopping power is equal to the mass times velocity squared, whereby we can decrease the mass and increase the velocity or vice versa to secure a certain shock effect, it is of proven knowledge that this theoretical formula does not always hold true. A more severe shock effect can be secured by a large mass going at a reduced rate than a smaller mass going at a faster rate. It is the same proposition that causes a prize fighter to desire large fists. Mass plays an important part in the shocking. In order to substitute for the mass effect of a larger caliber the smaller caliber bullet increases its velocity or changes its form so that it sustains its velocity. Though this is a desired feature and a feat that could not be accomplished in the past it is not seen whereby the necessary shocking force can be given to a smaller caliber even with the modern improvements of boat-tailing. In addition to these considerations it has been found that the present caliber .30 has none too great a shocking effect. In fact, experience has shown in the past that many men wounded on the battlefield by high velocity cartridges would have been killed had they been hit by the larger caliber bullet with slower velocity as used before the advent of the modern Krag and Springfield.

The Boat-tail Bullet

An improvement in ammunition that is an argument for reduction in caliber of military rifles and automatic shoulder weapons.

We also are confronted by the fact that the United States Government and the Allied manufacturers have spent many millions of dollars in tools, jigs and fixtures perfecting the present day cartridge. In its present form it is regarded by all nations in the world as probably the best all-around cartridge in existence.

THE MEAN CALIBER A COMPROMISE

Theoretically, the ideal cartridge for modern armies would comprise a smaller calibered cartridge of sufficient shocking power, such perhaps as a 7 mm., and in addition to this would be a larger calibered cartridge for machine gun usage. The reasons for the two cartridges are apparent. But in these days of necessary economies in the maintenance of large armies no country in the world has been able to afford two cartridges and the result has been that the mean between the two has been taken and adopted as the best solution of the problem. It is generally regarded by the foreign authorities that the caliber .30 constitutes the ideal medium or mean-calibered cartridge.

The chaotic state that now exists in many minds as to tactical methods for the employment of semi- and full-automatic fire in a natural result of the confusion existing between the conflict of tactical ideals and mechanical limitations. Besides this, in the excitement of war some weapons were foisted upon the line of the army for tactical uses for which they were not fitted. Extravagant claims were made for weapons whose fallacy was only learned by usage upon the battlefield. The mechanical problems involved in conjunction with the determination of weights to be carried by the soldier along with questions of supply and tactics are so interdependent and so interrelated that the best weapon and cartridge possible for design must in the end be a proportional compromise. It is for these reasons that in the last analysis, there is growing opinion that the best existing solution of this intricate problem lies in the adoption of high-powered semi-automatic weapons.

TACTICAL FEATURES

The light, semi-automatic military shoulder rifle is easily transformed to the heavy semi-automatic rifle type by the use of heavier barrels as may be desired. It may not be of general knowledge but it is of official record that the number of continuous rounds that can be fired without unduly overheating in the ordinary hand-loaded Springfield rifle (probably the best of its kind in the world) is around 85 continuous rounds. Of course, this figure can be exceeded by certain well acting mechanisms that have been properly taken care of (particularly by oiling) but as a general rule after the Springfield rifle has fired 85 continuous rounds the breech mechanism begins to stick to such an extent that it is harder to operate the bolt by hand. If we consider this protracted life of the hand-loaded weapon, the idea of a light, semi-automatic shoulder rifle with a barrel of like weight and dimension would not, upon the surface, appear to be advantageous. The temptation would always remain for the soldier in battle, to quickly and continuously fire his 85 rounds more quickly with the semi-automatic type than with the hand-operated type and he would be more quickly and temporarily out of action.

The mere rapidity of fire for the semi-automatic military shoulder type weapon is not the great question involved. Nevertheless, upon a review of past history of firearms it would appear that every improvement tended towards rapidity of fire in conjunction with at least equal or improved accuracy. There is no doubt that during an engagement there occurs a critical moment in which the preponderance of fire is of extreme importance and equal conditions being assumed on each side, the side which would bear the preponderance of fire intensity upon the other during the "critical moment" should be victorious.

Fire intensity or hits per minute by use of automatic guns compared to that delivered by hand-loaded weapons, might be likened to that of the prize fighter able to deliver an equally powerful blow at his adversary but who would be so slow in delivering these blows that their effectiveness would be nil because he would be already out of action. In other words, there is no doubt that the question of hits per minute or fire intensity is a very important question for the Infantryman upon the field of battle, particularly so

in view of present day tactics where the targets are fast moving and fleeting.

AMERICAN MARKSMANSHIP

Since the Battle of Lexington probably no tradition of the American Army is cherished so dearly as the proverbial marksmanship of the American soldier. This tradition has been preserved most carefully and to such an extent that it is seldom, if ever, that an American rifle team is defeated in international competition. However, the future development of the American marksman must take into consideration not only the accuracy of his hits but the speed in which he can deliver them. This question is now covered by so-called rapid fire with hand-loaded arms but recent tests have shown that the semi-automatic rifle can secure the same results at the same ranges, in about one-half the time required by the hand-loaded musket. This lays open the whole question of target range shooting and in the future it is to be expected that competitions to develop marksmanship will include the important development of hits per minute by the use of semi-automatic portable arms. This has never before been possible as there were no existing automatic arms capable of competing with hand-loaded weapons for accuracy. With the practical limitation of 85 continuous rounds without overheating the barrel of the military automatic shoulder rifle it would be necessary that the individual soldier be more carefully trained as to the expenditure of ammunition and the requirements of a higher degree of fire control by non-commissioned and commissioned officers—a very difficult proposition. It is to be remembered fire intensity or hits per minute is the common standard of two other great arms of war—the Artillery and the Navy. It is even more applicable to Infantry—the Queen of Battles.

However, all are agreed that the advantage of the semi-automatic shoulder rifle lies in increasing the time for aiming and, therefore, should result in even more accuracy. That is to say, that the time ordinarily required for the soldier to take his piece down from the shoulder, pull the bolt back by hand, recharge his piece and bring it up to the shoulder; that this period of time is saved in the semi-automatic shoulder rifle, since to fire again the semi-automatic rifleman has but to pull the trigger. The time thus saved can be devoted to obtain more accuracy by a longer period for aiming than afforded by the hand-loaded piece. There is also afforded the semi-automatic rifleman better facilities for firing at various targets in different directions during a certain specified period of time.

WEIGHT AND MAGAZINE CAPACITY

Assuming a sure acting light, semi-automatic breech mechanism, two questions of paramount importance present themselves:

First—What weight of barrel and what continuous heat life of the barrel is most desirable when considered in conjunction with the maximum weight of the gun to be carried by the soldier?

Secondly—What magazine capacity should be used in such a weapon?

If the weapon is to weigh under 10 pounds the barrel used must be of approximately the same weight and continuous heat life as the present hand-loaded musket.

Though the Springfield barrel fires

approximately 85 rounds continuously without overheating the forward lock of the Springfield rifle, it is found that with the same barrel the present day semi-automatics are capable of firing continuously up to 900 rounds. The reason for this is that the locking lugs of a semi-automatic rifle, if placed far enough to the rear, are not subject to the transmission of heat from the chamber as in the case of the hand-loaded Springfield.

With a magazine capacity of ten cartridges a rate of 25 to 30 aimed shots per minute is practicable with well trained men. With a magazine capacity of five a rate of fire from 15 to 20 shots is practicable for the average soldier with short training. Present day semi-automatic designs comprise detachable box magazines. Usually the five-box type is left in the rifle for continuous use, being loaded from the rifle in the same manner as the fixed box type of magazine in the Springfield rifle, namely, by clip inserted in the clip seat. At the critical moment the soldier can drop the five-box detachable magazine instantly and insert a loaded magazine of 20 cartridges. These 20 cartridges can be fired almost as fast as the trigger can be pulled if it would be desirable to do so, but it at least gives the soldier a great cartridge reserve at the moment wanted to considerably increase his fire power.

It is believed that the carrying of the two 20-capacity box magazines made much lighter than the present day Browning magazines is a very fair solution of the magazine problem—at least for one branch of the service, the Cavalry. These 20-capacity magazines could better be called 20-capacity loaders as the magazines are expendable and of a very light weight.

By placing a one-pound heavier barrel on this mechanism a gun can be fired semi-automatically at least 500 continuous rounds. With a magazine holding at least 10 cartridges and firing at the rate of 50 shots a minute, we could fire continuously from a weapon weighing 11 pounds, for a period between 9 and 10 minutes, a period of continuous fire greater than the hand-loaded weapon, delivering a cartridge of the same ballistical qualities, affording the same time for aiming and attaining a rate of fire almost twice as great. In this solution and compromise of the problem involved, we sacrifice but one pound of weight and retain all other desirable features.

It is believed that this weapon would not be necessarily issued to every soldier in the squad, at least not until its use had become thoroughly understood both from a mechanical and tactical point of view. Perhaps two men of the squad could carry it and form rallying points for members of their squad. As to its issue to every member of an Infantry squad, such would not be an impossibility.

TREND OF AUTOMATIC ARMS DESIGN

The general trend of automatic design since the World War has been to meet the requirements of the military for automatic arms of reduced weight and increased accuracy. It is true there has not been developed a high-powered full automatic weapon meeting both these requirements, nor is it likely that such can ever be accomplished since in light full-automatic types it is necessary to increase the weight of the weapon to secure accuracy. However, the superiority of a mechanism firing lower-powered cartridges over the heavy complicated high-powered machine rifle when used

full-automatically has become firmly established. Such weapons not only allow of great reduction in weight but are vastly more accurate at longer ranges by reason of their reduced recoil. These remarks apply, of course, only to light portable automatic types.

For semi-automatic use the high-powered military cartridge is practicable. High-powered semi-automatics give superior accuracy (on account of longer time for aiming) than high-powered hand-loaded rifles as well as allowing for a weight under ten pounds.

Small, but Costly

The United States Army is about as small as it has been in recent times. It is so small, in fact, that a good many military men are disturbed about it, feeling that it is not adequate to the demands that may be put upon it. Whether this is true or not, the Army costs a neat sum to operate. It costs about a hundred million dollars more than does the military establishment of England, which is larger than that of the United States.

This is not an indication of inefficiency. It rather points toward efficiency. It costs more to run an army in this country than anywhere else. It costs more for each soldier, in salary and upkeep. It costs more because the units are smaller and more scattered. It costs more to maintain an army for the same reason than it costs more to maintain a home. The standard of living is such that it brings expense with it.

Whether the added cost makes better soldiers only a war could demonstrate. There has been enough experience, however, to show that the soldiers of the United States rank with the best in the world. In a time of crisis they rise to the occasion. They are able to do this because at all times they are treated not as servile menials, but as citizens, engaged in the performance of a splendid civic duty. It pays to pay a little more for an army, or for anything else that is worth having.—*Miama Herald.*

Thoughts on New Developments

By *Major* Owen R. Meredith, *C. W. S.*

A DISTINGUISHED business man and eminently successful officer, in connection with what was probably the most comprehensive and able investigation ever undertaken of a military matter in our history, stated in substance that, "It is the age old cry of youth against restraint imposed by the maturer judgment of age." Doubtless he was fully aware that age is youth and youth is age in a particular case more as a result of environment and experience than because of relative hard winters and summers.

Fundamentally, of course, youth is impulsive and age conservative. It must be admitted that the sole judgment of neither is likely to be entirely sound while at the same time admitting that that of age is by far the better guide in the general case. On occasion this view must be altered considerably, and mostly with reference to new developments of any kind. It is always well to keep in mind that revolutionary progress has often been the result of new ideas conceived by men who were considered queer, or worse.

> **To dismiss any well-conceived new departture in the method of waging war without careful consideration is to court the forerunner to huge war debts**

So far as armies are concerned the basic principle in all development has been to increase the disabling power of men, and by mechanical means. The advent of fire arms is the best example and as a recent case that of automatic weapons is perhaps the most striking and well known. The final measuring stick of new auxiliaries or methods is whether they help the doughboy forward.

In 1910 and for some time previous our army, after a fashion, was equipped with a machine gun. In 1912 we changed to a machine rifle. Our Field Service Regulations covered the machine gun with the statement that it was a weapon of opportunity. A few years later it was used at every "opportunity" and throughout the war was perhaps the hardest nut to be cracked in overcoming resistance.

While there may still be much honest difference of opinion as to the best combination and organization for automatic weapons, their place in all modern armies is a fixture. The danger now may be not that we will not use them enough but that we will use them for purposes for which they are not suited. The pendulum certainly took a long swing in a short time. How much further will it go in the age old building of a fighting unit around fire power? Is the shoulder weapon moving towards a supporting rôle for the machine rifle? In other words, will the squad of the future have one or two machine rifles and the other members be armed with an auto-loading shoulder rifle for the purpose of supporting and advancing the machine rifles up to the stage where the doughboy always finishes?

Can any such scheme enable the Infantry soldier to close on his enemy with fewer losses than have fallen to his lot in the past? If the development of fire arms and automatic weapons points any lessons they certainly lead towards basic minor tactics revolving around small units and intense fire power. Great armies of nations who take preparedness more seriously than our own have adopted such a principle. It may be pertinent to wonder how much of sentiment, tradition, and conservatism the doughboy of the future will pay for in currency not measured by purchasing value.

CRIES IN WILDERNESS UNHEEDED

Prior to the World War some of our officers were strong advocates of the machine gun, but they made little headway at home. Practically nothing in the way of sound machine gun employment developed during the World War which was not advocated or which would not have been advocated by these officers had their cries in the wilderness carried more weight. The ideas of at least one of them were considered favorably in Germany, and results of German development are too well known to merit repetition. It should be noted that Germany in this case built upon sound principles without waiting to *prove* the particular case in war. As will be pointed out later, she did not follow this practice in another instance and may have lost the war thereby.

The development of small arms ammunition in our service has looked largely to target range accuracy and stopping power. The World War indicated that the rifle would not be very useful beyond 600 yards and probably not at all beyond 1,000 yards. It is self-evident that maximum accuracy is desirable, always provided that more advantageous features are not sacrificed to this end. Extreme accuracy and extreme range are closely related and both involve flat trajectories with a corresponding loss of close support in overhead firing. They may also be said, in a measure, to involve more powerful weapons with a resulting increase of weight. For example, a weapon using ammunition with an effective range of 2,000 yards probably will be heavier than one using ammunition with an effective range of 1,000 yards, even though the caliber be the same. In the case of a rifle the man carrying it must provide for the extra weight involved in having power which he can not use effectively. It is hard to exaggerate the seriousness of the weight problem, particularly as applied to the load now hung on the doughboy.

REDUCED CALIBER OF RIFLE

A shoulder rifle with reduced caliber and range seems to offer an opportunity for a considerable weight reduction, and in an all-important place. A machine rifle using the same ammunition, with an effective range of 1,000 to 1,500 yards, and a machine gun of the same or slightly larger caliber and an effective range of 3,500 to 4,000 yards are other weapons which offer plenty of field for favorable consideration. There seems little tactical reason for weapons and ammunition suitable for ranges at which probability of effective use is and will remain non-existent. Effective combat fire by small arms at ground tar-

gets beyond 3,500 yards is mostly in the realm of fancy and places its chief reliance upon hope.

In the machine gun field rests the greatest present possibility of a maximum effective method for antiaircraft fire. Some form of this fire which gives a shotgun instead of a rifle pattern at the target will unquestionably account for many more hits in a given time. In other words, several projectiles arriving simultaneously give a greater chance for hits on a fleeting target than the same number arriving successively.

Personnel involved is also a factor. By mounting four machine guns for antiaircraft work so as to fire them with a single trigger and using a single aiming device, the personnel required would not greatly exceed one-fourth of those necessary with four guns mounted singly. Training and supply matters are simplified. Disadvantages, such as engaging but one target at a time, exist of course but they seem outweighed by the increased effectiveness and decreased personnel elements.

ON TANKS AND GAS

Tanks and gas are matters which nations on opposite sides of the World War may still look back upon with that "might have been" thought. Both means were first used on an experimental scale and then frantic efforts made to employ them in overwhelming quantities. It is interesting, and enlightening, to muse on what "might have been" had either tanks or gas been extensively used in the first instance with a full appreciation of their effects. After all it is the same old story of carrying out a decision vigorously once the decision has been made. There appears to be ample evidence that expert advice was not lacking in the case of gas, but contrary to her policy with machine guns Germany chose to *prove* the use of gas in war before attempting to take full advantage of the method. As wars are measured, it is doubtful whether a nation ever lost as great an opportunity.

EVERY mechanical device so far produced is dependent for its most effective use upon the closest possible association with other arms, and in particular with Infantry and Artillery. Aeroplanes must rely upon Infantry to prevent the enemy from overrunning their aerodromes, and, despite their increasing range and versatility of action, are clearly incapable in themselves of bringing about a decision. Tanks require the closest artillery support to enable them to reach their objectives without falling victims to the enemy's artillery, and are dependent upon the Infantry to hold the position they have won.—Field Marshal Sir Douglas Haig.

The whole subject of gas and chemical warfare is a delicate one and there is no object here to interject controversial matters. The fact remains that however binding the wording of treaties may be or become, and our nation would zealously guard them, chemical warfare is a serious threat and a thoroughly practicable war measure. Of the means by which it

might be employed against us that by airplanes is the greatest menace. The platitude that gas has never been employed by airplanes in war is not only idle but dangerous. It is the plainest common sense to state that all well trained troops should have and keep a comprehensive understanding and appreciation of the possibilities, and particularly the practicabilities, of chemical warfare. Of all the poor reasons ever advanced for anything the following, standing alone, are in a class by themselves: "It has never been done," and "It has always been done this way." As usual the doughboy stands to pay the big price and he should "jolly well" know what it is all about.

It is not unusual to hear the reference to new developments of any kind as "bunk," either by word or action. Such a frame of mind is the logical forerunner to huge war debts.

Human Power in Defense

DISCUSSION of "wars in the future," gives writers a chance to predict regarding the way in which great fighting will be done when nations again appeal to armed forces for settlement of argument. Some "authorities" have lately been quoted as declaring that future wars will be won by the Infantry, and other "military experts" are suggesting that machinery will be the means employed in deciding who shall reign or not reign in lands of the earth. The question is left rather "in the air," and this is not intended for a reference to aviation. The probability is that men and guns will win the next war, as they have won all the wars since men fought with sticks and stones.

While there is great evidence brought up to show the enormous amount of damage done by artillery and the extensive use of all manner of offensive devices during the World War, it remains a fairly well understood fact that the war was "called off" when the aggressors found themselves confronted by greater numbers of men, with guns, on the opposite side. . . .

Nations build forts and battleships and bombing planes, and endeavor to keep an interest well developed in transportation and supplies. It is the business of the War Department and the Navy Department to study and plan, for the next war. . . .

But all of these things would fail utterly if there was not behind the "machinery" millions of men ready to shoulder the rifle—or small machine gun which some authority expects the next doughboy to carry—and step to the front. . . .

Men and guns win wars.—*Florida Times-Union.*

The Military Instructor[1]

By *Captain* Francis G. Bonham, *Infantry*

HAVING given the class the material for thinking an instructor is confronted with a second problem: *training the class to think.*

There are various definitions for the word "think." The definition to which reference is made here is: The discovery of relations among facts, objects or ideas. For thousands of years people saw apples fall from trees to the ground yet it remained for Newton to discover the relation between falling apples and the great principle of gravity. He was a thinker.

It is vitally important that all potential leaders be trained in peace time to think. The process is a slow one; it cannot be sped up. As soon as war becomes imminent the importance of time as a factor in training increases enormously. Then men must be trained quickly in execution. The thinkers must have been developed before this stage is reached.

How do you proceed to give those whom you are instructing a stimulus to individual thought? This article gives some well-digested ideas in answer

There are certain definite means by which men can be taught to reason, to think. A man thinks, for example, when planning to accomplish any mission. So simple a problem as digging a post hole requires thought. By assigning missions and leaving, within limits, details of execution to the leader in charge we cause him to think. As in many places leadership and training here overlap.

A man thinks, too, when answering questions. The question, "Where is the front sight of your rifle?" calls for thought. The man must know the barrel, the relation between barrel and front sight and the names of both parts in order to answer. In tactics, which is largely concerned with the application of principles and particularly with less definite relations, there are unlimited possibilities for applying the question method. The question, "What do you do?", encourages thought. In a well prepared situation there are many possibilities. The weighing of known and probable conditions and the final selection of a plan require thought. In this process lies the principal value of the tactical problem in peace time.

Nor does the problem need to be an intricate one. Innumerable simple situations involving the actions of two scouts can easily be devised. In solving these situations the scouts will learn to do what they must do in combat if they are to function efficiently—to *think*.

Since, however, the thinking process is at least as important as the action taken it is not enough to ask merely, "What do you do?" The reasoning which led to the decision must be brought out and discussed. This is done by the addition of "Why?" Here, then, is a principle: Whenever the situation permits add, "Why?"

[1] The first installment of this article was contained in the October INFANTRY JOURNAL.

Another point with respect to asking questions. Suppose the instructor says, "Jones, what do you do?" As soon as the other members of the group hear Jones' name called they stop thinking and wait for Jones' reply. If on the other hand the instructor omits the name, everybody is thinking, because no one knows who will be called on. Hence, the question should be stated first and then, later, an individual answer should be required.

But even this scheme will not insure thought by all members of the group. Some will take a chance on not being required to answer, others will still be going around in circles mentally and will stop thinking when Jones is called on. Therefore it is often advisable to have members of the class *write* the answer to the question. Then when the instructor is ready he calls on one member of the group *to read what he has written*. Especially with large classes of certain types of men, in certain subjects, this is a highly efficient method.

Sometimes, as a variation, good results can be obtained by having all members of the class answer simultaneously. When teaching nomenclature, for example, the instructor points to a part and asks: "What is the name of this?", then has all reply at the same time. A requisite to the use of this method is, however, that the class must be thoroughly interested.

MAKING POINTS OF CONTACT

An instructor can increase the interest of his class by making frequent points of contact between the subject and members of the class.

By "points of contact" are meant points common to both the subject and the class. Suppose, for example, that instruction is being given in the subject of flank combat patrols. The following statements serve to tie in the subject and the class: "As leader of the combat patrol on the left flank of your company, failure to act properly would, in this case, have resulted in many casualties to the men of your company." Or, "Failure of your patrol to occupy that hill would have meant the defeat of your battalion."

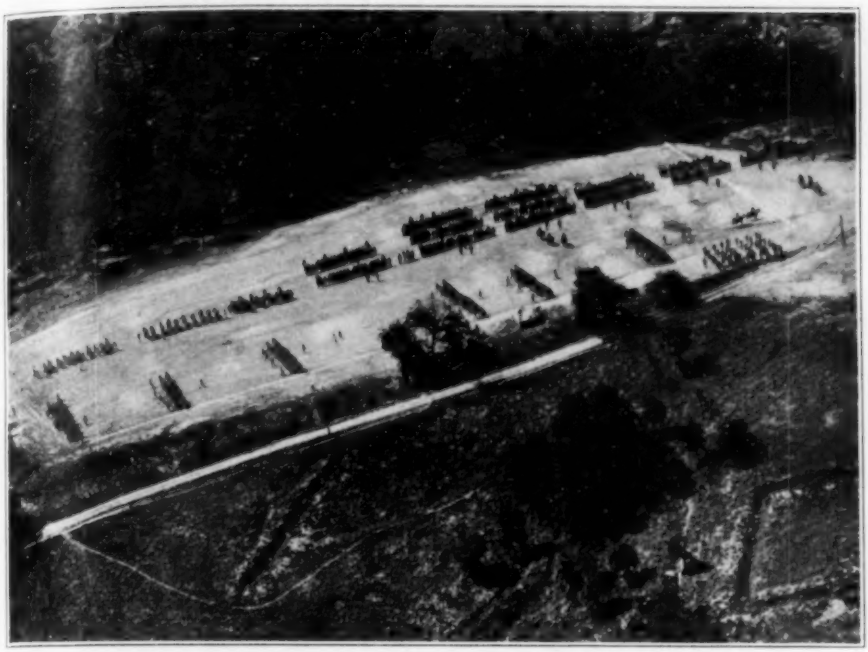
The fact is thus brought forcibly home to each man being instructed that *he* must learn how to conduct a flank combat patrol because *his* actions may mean the success or failure of his organization in battle. He is thus made to realize forcibly the value of the subject to him individually.

This principle is applicable to every subject and class. Much thought is often required to find and determine how best to make points of contact but it can always be done.

AROUSING LAGGING INTEREST

Interest lagging due to such unavoidable causes as excessive heat or fatigue may often be aroused by questioning members of the group being trained on points that have been covered or by having members of the group conduct a review of work that has previously been taken up.

Lagging interest during a period of close order drill may, for example, often be aroused by giving an incorrect demonstration of a well-known movement and asking men in ranks to point out any errors made. It may often be aroused, too, by requiring private soldiers to instruct the group in some such simple point as the rifle salute. The other men of the group, even though tired, will ordinarily pay



Trained Instructors Are Needed in Our Peace-Time Army

Our civilian components require the best efforts of Regular Army instructors for their brief periods of military training. The picture shows a review of the C. M. T. C. at Fort Thomas, Ky., conducted by the 10th Infantry in 1926.

close attention to the training in this case. The instructor, by asking other men in ranks if they noted any errors, can then further increase interest. Finally, in a brief critique he can drive home the principal points brought out. Or he can call on another member of the group to give instruction in the same subject immediately after the first man has completed his work, reserving questions and the critique until the second man has finished.

This method can be applied alike in all subjects of training. Nor is the time so taken lost because every man of the group, being interested, learns something.

When in teaching such subjects as combat principles, jungle combat or beach combat the instructor gives the group tactical situations verbally, he should not assume that everybody understands and remembers what was said. Usually several men in the group will not thoroughly understand the situation even though it is repeated. By asking a few questions of the class the instructor will quickly cause everyone to grasp all points covered and will thus build the foundation that is needed if the problem is to be of real value.

A similar procedure following lectures or informal talks is essential to insure a thorough understanding by the class of what was covered.

When a member of the class asks a question the instructor should not

A UNIT training program must take cognizance of the fact that the specific preparation of officers, noncommissioned officers and certain specialists as instructors is a fundamental requirement. This is true of all units, whether of the Regular Army, National Guard or Reserve, and it continues to be true throughout a war because of the unit and replacement training that characterizes pauses in active operations. The speed and value of the training will be in direct proportion to the ability of officers, noncommissioned officers, and specialists as instructors. They be inherently good men as commanders, or leaders, or operatives, and still be deficient as instructors. Having learned a subject, they still have to learn to teach it.—"Training Management," by Bjornstad.

reply to it if he is ignorant of the answer or no member of the class can answer. If he does not know the answer he should say so at once. He should then ask if anyone in the class knows it. If he does know the answer he should nevertheless require a member of the class to reply. Thus he causes the class to think and keeps the members alert and interested.

Sometimes it is advisable for the instructor to answer a question asked him by a member of the group, by a question. Suppose, for example, he is asked the question: "Why would you lead the patrol over *that* route?".

If he makes a direct reply he may be drawn into one of those endless discussions with which all instructors are familiar. On the other hand, if he says: "What are your reasons for *not* taking the patrol over that route?", he places the burden of proof on the student, thus causing him to think. And if later he asks: "What route would you lead the patrol over?" and "Why?", he will cause all of the points involved to be brought out, at the same time insuring some thought at least by the questioner.

ENCOURAGING DISCUSSION

Discussion among members of the class should be encouraged as a means of training them to think. If in the above situation, for example, the instructor calls on another member of the class for his opinion of the actions and reasons of the student who asked the question he will probably develop considerable discussion.

Properly handled, this will mean thinking by members of the class. Interest will surely follow. The discussion, should not, however, be permitted to degenerate into a wrangle. When the main points involved have been brought out, the discussion should be ended by a brief critique, in which the points for and against each solution offered are covered and the opinion of the instructor in the matter given. The tactful handling of such situations will call for the instructor's knowledge of the art of instructing, but the results will more than repay him for any efforts of preparation.

TACTFUL CORRECTION OF MISTAKES

The instructor should seldom tell a student that he is wrong or that his solution is incorrect. In all except such

mechanical subjects as close order drill and rifle marksmanship decisions to do certain things or act in a certain way are based on individual opinion. Men instinctively resent being told outright that they are in error where opinions are involved. The same results can be obtained without the undesirable effects by bringing up situations which will cause the student to discover his error for himself.

To illustrate: Suppose in a patrol problem the leader has his patrol enter a suspected building without proper precautions for covering the men who first go in. Instead of saying, "That is wrong. You should have had men in position ready to cover the men who entered the building," the instructor might say: "When your patrol was forty yards from the building it was fired into by men concealed inside. Four of your men were hit. Could you have avoided this?"

If he fails to get the point, then, the instructor should call on someone else for an opinion as to the proper action. If, however, the situation brought up is clear, and the principle involved is one with which the student is familiar, he will usually discover his mistake. He will then remember that principle for all time, will feel that he discovered the mistake himself and will consequently feel better about the incident than had the instructor told him: "That is wrong."

This principle can, in a small way, be applied even in close order drill and rifle marksmanship. Suppose, for example, that a man makes an error in his position. Instead of correcting him continually you can drive the point home by taking the incorrect position he does and asking him to tell you what is wrong.

PERSONAL FACTORS

It is not, however, sufficient to complete success in instructing that an officer or noncommissioned officer follow mechanically the methods of training previously outlined in this article. There are certain personal factors which must be considered.

In order that an instructor may increase his instructional efficiency he should, whenever possible, have someone to criticize his work.

All of us make mistakes daily. We progress or we retrogress; there is no standing still. It is difficult and often impossible to detect mistakes which we make but which are instantly apparent to others. The surest way to develop is to have someone criticize our work, to consider then impartially the criticism offered and to change accordingly, if the criticism seems good. The first step we should constantly insure by inviting frank criticism. An impartial consideration of this criticism will then furnish a basis for future improvement.

CORRECT ATTITUDE OF INSTRUCTOR

Indifference on the part of any member in a group during instruction is usually the fault of the instructor. Few men will be interested in close order drill indifferently conducted. Few men will lack interest in close order drill that is well conducted. As has been pointed out one of the instructor's main problems is to present his subject or conduct training in a way that will arouse and hold the interest of the class. Failure to solve this problem properly will invariably make for

indifference in the class. Disciplinary action against men who are or who appear to be indifferent during training is the last resort. Before taking such action the instructor should use every means that he knows about to insure interest in the work.

In this connection he should assume that the members of his class want to learn. The instructor who suspects a spirit of indifference toward his instruction usually by word or sign betrays his feelings. The reaction then is fatal. Suspicion begets indifference; confidence begets interest. The instructor who suspects no one, errs on the side of safety, if in so doing he errs at all.

ENTHUSIASM NECESSARY

However, it is not sufficient that he have confidence in his class; he must also be enthusiastic about his instruction if it is to be successful. If he is not naturally interested in a subject he should make every effort to work up interest, he should become enthusiastic about it. Enthusiasm usually follows an understanding of the purpose of instruction. In one case it may be to train men to execute movements as individuals; in another, to execute the movements and to instruct others in their execution. A thorough knowledge of his subject from the viewpoint of the class will further increase an instructor's interest. Finally, knowledge of men and how they think, that is, a knowledge of psychology, will make his problem still more interesting. Without the enthusiasm that naturally follows such interest he cannot hope to interest others, nor should he expect others to feel an interest that he himself lacks.

In any event he should never use sarcasm or ridicule. Questions that seem foolish to the instructor who is familiar with the training, often are asked in all seriousness. A sarcastic reply, or a reply which in any way makes the questioner seem ridiculous is always a boomerang. Nothing will so quickly destroy the instructor's prestige, as this method of dealing with situations, no matter what the situations are.

A CALM ATTITUDE ESSENTIAL

There will be occasions when the real or apparent ignorance of men being trained will annoy the instructor. On such occasions it will be entirely to his advantage to conceal any annoyance that he may feel. If he makes it a rule always to be calm under all circumstances he will always be complete master of any situation that arises and he will retain the respect of all with whom he deals.

By adopting toward his class the mental attitude just discussed he will make his training problem easier and far more pleasant, he will find his interest in even the dryest subjects growing day by day, and he will be rewarded by results far more satisfactory than he can possibly obtain if his mental attitude is otherwise.

In all training the instructor should give breaks from time to time. Interested men work under high tension. No one can hold interest during long periods of uninterrupted training. This seems obvious yet officers and noncommissioned officers may be found dragging a group of men through thirty or forty minutes of close order drill with no rest. Sometimes this is due to sheer ignorance of psychology, sometimes to forgetfulness due to the instructor's

great interest. But the effect is the same in either case.

Considering the example of close order drill, ten minutes or less of training followed by two minutes of complete rest will be far more valuable than twenty minutes training followed by two minutes rest. And for the purpose the command should be "Rest," not "At Ease."

PREPARATION OF SUBJECT

The instructor should not blame any inability to instruct on personality. Instructing is an art. To become an instructor requires special study and thought. Army officers and noncommissioned officers are constantly instructing yet few seem to think that any special study of the subject is necessary. No one was ever born a good instructor. Every poor instructor by study and thought can greatly improve himself. If the instructor will apply the principles covered above he will find that personality as a factor will largely disappear.

That an instructor must know his subject thoroughly is fundamental. The meaning of the statement is, however, not always understood. The usually accepted meaning is to know the contents of the text. This is, of course, important but it is by no means final: knowing the subject from the viewpoint of the class expresses the intended meaning better.

The complete preparation of a subject includes:

a. Reading the text in order to obtain a general impression, at the same time visualizing everything described.

b. Reading a second time, closing the text at the end of each paragraph and summarizing what has been read. Make vivid mental pictures of each description, see the thing actually done by human beings.

c. Analyzing each part of the subject matter and determining the relation of each part to each and to the whole.

d. Analyzing each part of the subject matter from the viewpoint of what the members of the class need to know about it.

e. Preparing an outline of the subject, listing points in the order best suited for the particular purpose. This outline then serves as notes for reference in training and for future presentation of the subject.

f. Finally, working out concrete examples or illustrations to make clear all general rules and principles.

Preparation in this or in a similar manner will go far toward making the instructor master of his subjects and will lay an essential foundation for the proper application of the principles of instructing discussed herein.

STUDY OF PRINCIPLES OF INSTRUCTING

A course of instruction in the art of instructing will alone not give the instructor the needed grasp of this subject. The following method is suggested as an aid to the end desired:

a. Memorize the principles.

b. Prepare examples in several different subjects to show their application.

c. Review the principles frequently.

d. When starting to instruct forget the principles of instructing and concentrate on the subject being taught.

e. At the end of the day review the principles of instructing and check those violated.

f. Add to the list any new principles discovered or amendments to any otherwise learned.

In some such way as this the instructor can quickly learn these principles so that he will apply them more or less without conscious effort.

CONDITIONS AFFECTING PREPARATION

In the preparation by the military instructor of a subject he should first consider the conditions under which his instruction is to be given. Some of these conditions are:

I. Amount of time available—
  1. War time
    a. Regular Army: First draft, 1 to 3 months; other drafts, 3 to 12 months.
    b. Training camps. 1 month. 3 months.
  2. Peace time—
    a. Regular Army, ?
    b. Training camps, 1 month,
    c. R. O. T. C. schools, ?

II. Nature of Class—
  1. Officers—
    a. No military experience,
    b. Six months or more experience,
  2. Enlisted men—
    a. Recruits,
    b. Old soldiers.
  3. Students—
    a. R. O. T. C.: Schools or camps,
    b. C. M. T. camps.

III. Object—
  1. To impart information primarily to first draft.
  2. Other than (1)—
    a. To impart information,
    b. To train to think,
    c. To train to instruct others.

IV. Size of class—

V. Nature of instruction—
  1 Nomenclature (no opinion),
  2. Drill (some opinion),
  3. Tactics (largely opinion).

TRAINING INSTRUCTORS

Sooner or later every officer becomes concerned with the problem of teaching officers or enlisted men how to instruct. As a man's ability to instruct increases he comes to know better the most important factor in battle, the human element. With this knowledge goes a developed sense of self-confidence, a stronger belief in his own ability, and a better knowledge of how to handle men. A desire to accept responsibility and to act in unexpected situations follow naturally. We are in need of leaders who have initiative. We can best develop this initiative by teaching our leaders the art of instructing.

Our problem when teaching others to instruct is: first, to reach them the fundamental principles, and secondly, to supervise their application of these principles. The question arises as to whether it is better to take up these principles en masse by means of lectures and conferences, and then to discuss their application daily, or to take them up one or two at a time following each period of daily instruction by noncommissioned officers, until all principles have been covered.

METHODS TO BE USED

The latter method is recommended. The following example illustrates how it should be applied, if adopted. Assume that Sergeant Smith when teaching "Right Face" during the close order drill period explained the movement before demonstrating it and repeated the words of the training regulations while so doing. In a brief critique later these mistakes should be used as a basis for discussing with all noncommissioned officers of the command the principles regarding the order in which such work as this should be taken up and the use by an instructor of his own words in explanations.

More specifically, each principle violated should be discussed, and the application of each when teaching "Right Face" should be shown. The reasons which made a statement of the principles possible should be given. And, finally, in other periods of training these principles should be driven

home by repetition and by pointing out how they apply in different subjects. In time the instructional ability of the noncommissioned personnel of an organization will be greatly improved.

It is probable that the same principles were violated by other instructors during the same period. If such violations were noted they should be discussed at the same time the others are. Perhaps other principles were violated by the same or other noncommissioned officers in the same period. If so, it would be advisable to take these up later. Otherwise the instructor candidates will probably become confused and as a result will lose interest. Note here that the instructor in charge is thus applying the principle of taking up only one point or step at a time.

Thus by using concrete examples from instruction actually given the few, simple principles of instructing that every noncommissioned officer should know can quickly be taught.

CONCLUSION

No effort has been made in these two short articles to treat exhaustively the subject of instructing. Rather only those principles which seemed most important and applicable to daily training were considered. It is hoped that the suggestions made may prove of some slight assistance to those Infantry officers who, lacking such assistance, have sought in vain for some guiding light.

Common Sense Demands Adequate Defense

Those in responsible authority ask only a very reasonable program for our military establishment, but the efficiency and interest of the personnel cannot be maintained without a certain permanency. Congress and the country at large are in favor of such an organization and only a small, unimportant, but vociferous minority opposes it, generally for its own ulterior purposes. Our experience in the past can not be ignored. The situation at home now and in the future demands the maintenance of a highly developed nucleus; or our own position in the world demands it, and common sense demands it. There can be no earthly justification for saving a few millions of dollars a year on the Army during peace if as a consequence we must spend many billions in an emergency in an attempt to make up deficiencies, and invariably this has been the consequence. The difference between an adequate and an inadequate system is not sufficient to warrant the risk. There is a point below which we cannot go without most serious results, and we have reached that point.—*General. John J. Pershing, Oct. 9, 1926.*

French War Doctrines and Plans[1]

By *Lieutenant Colonel* J. M. Scammell, *Cal. N. G.*

IN my article in last month's INFANTRY JOURNAL I discussed the manner in which the French War Plan No. XVII was executed in the World War; then reviewed the fundamentals of the French strategic doctrine down to 1890.

From 1890 to 1910, the "defensive-offensive" school dominated military thought. A feature of this doctrine was the necessity for a strong strategic advanced guard which would "pin down the enemy while the commander prepared and delivered his decisive blow with his main mass of maneuver." Although the French regulations of the time did not mention the general advanced guard, that the conception dominated the views of the high command is shown by the war plans of the period.

> **Bitter and long was the contest in French military circles over the proper strategic doctrine for the war with Germany; the "offensive from the start" prevailed**

Plan X came into effect in May of 1889. The covering forces were to be supported by an advanced guard of the army capable of acting offensively from the fifth day of mobilization. This was a tentative plan until a more carefully matured one could be devised, and this was Plan XI of 1890 in which the covering force and advanced guard elements were reduced from eighteen corps to nine. The disposition of the Armies of the Northeast was as follows: The central group was composed of three armies, two of which were in the first line between Charmes and Commercy, and the third in reserve between Chaumont and Neufchateau; on either flank, armies were placed, one on the right near Epinal supported by another between Lure and Luxeuil, and two armies on the left, one between Bar-le-Duc and Sainte-Menehould and the other at Rheims. This disposition was devised to make possible either a defensive or an offensive campaign. Alternative details were provided in case of a German violation of Belgian neutrality; nevertheless the main attack in any case was expected to come from the direction of Metz.

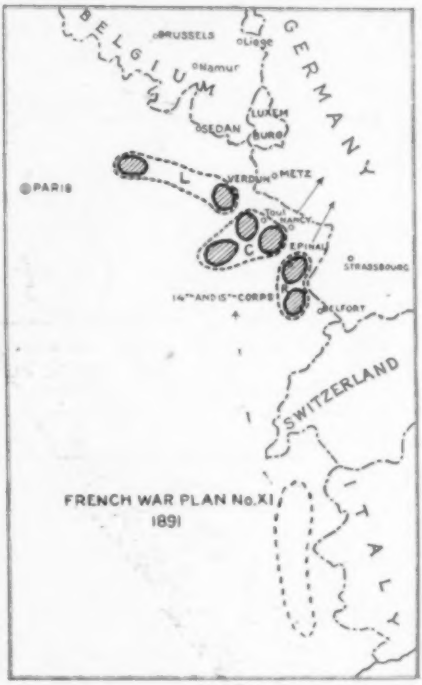
In February, 1892, came the Franco-Russian alliance. This led to Plan XII which was based upon an immediate offensive. Plan XIII of 1895 expressed the current ideas of covering forces, advanced guards and a mass of maneuver. But no idea of a passive defense was considered: just as soon as numbers, transportation and training gave the least justification for entertaining the idea the French war plans were based upon an immediate and resolute offensive. And emphasis upon this consideration grew stronger day by day.

It is of importance to note for future reference that in Plan XIV of 1898 the reserve formations heretofore used in the army corps were taken out to conserve staffs and were organized into independent reserve divisions. Only active units were now to be em-

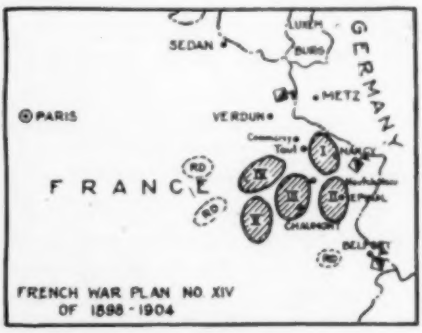
[1] The first installment of this article was published in the October INFANTRY JOURNAL.

ployed in the first line and the number of armies was reduced from seven to five. One army was to be stationed at Nancy, and was to constitute the general advanced guard. Three other armies were grouped in the area Epinal, Neufchateau and Commercy. A reserve army was stationed around Chaumont. The reserve divisions were arranged in three groups in the second line.

In 1903 changed political conditions demanded a modification of the war plan. Italy might be counted among the possible enemies, and relations with England were strained. Hence, Plan XV called for a sort of "position in readiness," a central grouping which might respond to the different possible eventualities and leave the hands of the commander-in-chief free to adopt whatever maneuver might be required. No general advanced guard was practicable in such a war plan. Hence, we find three armies in the first line oriented toward the Eastern frontier: one of the five corps around Epinal, one of four corps in the center in the vicinity of Toul and Nancy, and one on the left of five corps facing Metz along the heights of the Meuse. In the second line there was an army of four corps centrally located and able to be reinforced by three groups of reserve divisions. A fifth army watched Italy. In 1906, in view of the haunting possibility of a German maneuver through Belgium, a variation was adopted to meet such a contingency: the fifth army could be concentrated around Revigny. Later, in 1907, the plan was still further modified, the axis of concentration shifting northward as a further protection against a menace to the left flank.

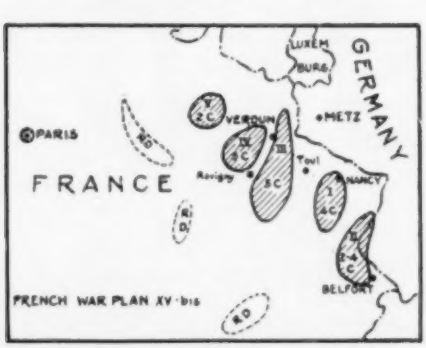


The Armies of the Northeast were divided into three groups by Plan XI, with a reserve of two corps available from the Italian front. In this plan of concentration the main German attack was expected to come from the direction of Metz



Plan XIV of 1898 provided for one army as a strategic advanced guard, three in a general line in rear, and a fifth as reserve. Reserve divisions were grouped in three areas. Cavalry corps covered the flanks

Plan XV of 1903 discarded the general advanced guard idea, leaving to the commander-in-chief whatever maneuver might be required



Plan XV was modified to provide for the eventuality of a German advance through Belgium

Improvement of French relations with England led to Plan No. XVI. The dominating note in this plan was *maneuver*. The following extract from the plan, quoted in the French official history,[1] gives the spirit in which the plan was conceived:

A plan of concentration ought to satisfy a double condition: embody the germ of the maneuver by which the commander-in-chief seeks to inaugurate his plan of campaign, and foresee as clearly as possible the eventualities which may be brought forth so that these may not take him by surprise if, in the beginning, he is forced to submit to the will of the adversary.

Consequently the initial disposition of the troops on the terrain should be studied above all with a view to possible movement, and bearing in mind that the value of the concentration adopted will depend almost entirely upon the degree of its suppleness.

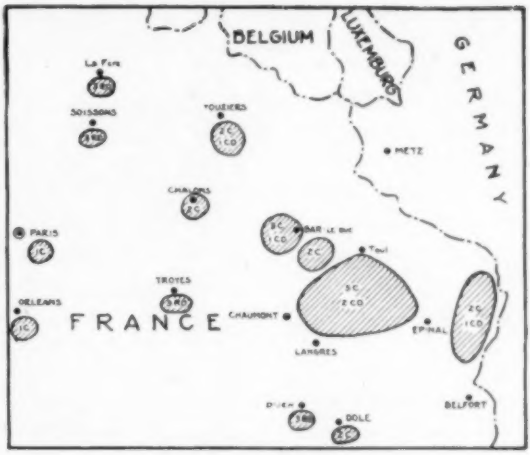
POLITICS AND THE ARMY

Such were the plans adopted prior to 1910. But, before we turn to a discussion of the critical period of 1910-1911, it would be well to consider in passing that there were other factors affecting the French army at this time. Politics was active within and without the service. The Dreyfus affair had left its scars. There was distrust between Royalist and Republican, and between Catholic and Mason. Under General André, as minister of war, secret reports were made on officers and even upon the political views of their families. The local civil authorities were employed to spy on the military. The use of anonymous denunciations was encouraged. An officer, to gain promotion, must be a good Republican and a strong Anti-Clerical.[2]

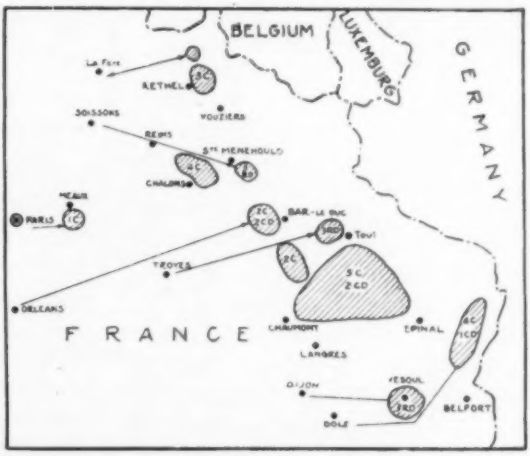
Moreover socialistic pacifism was rampant. The Socialists were convinced that their German brothers would never tolerate a war against France. In accordance with their dogma they refused to support the military estimates. The Treasury, in turn, refused to allow the full budget actually accepted by the parliament.[3] Moreover, in order to curry favor with the electorate, the deputies had voted

[1] "Les Armées Françaises dans la Grande Guerre," Tome 1er, p. 11.
[2] See Mermeix, *Au Sein Des Commissions*, Paris, Libraire Ollendorff, 1924, for this political aspect.
[3] Ibid., Chap. IX.

to reduce the period of field training for the reserves and to suppress that of the territorial forces. Supplies for a major war were lacking and so demoralized was the service that general officers were found who rebuked subordinates for attempting to enforce discipline among the unpatriotic soldiers permeated by socialistic, pacifist doctrine. These conditions led to the publication of alarmist books and articles, notably Driant's *Vers un Nouveau Sedan*, and an article by General Langlois in the *Revue des Deux Mondes*. The latter charged that the army lacked war materials, that the reserves were deteriorating, that the matter of promotions required investigation. He pointed out that, to please the politicians, officers were being employed in nonmilitary duties and promoted for their zeal in teaching the pursuits of agriculture, commerce and manufacturing and not for military proficiency; and he included a table which showed how rapidly the German army was growing and over-shadowing the French. He concluded by saying that "the army is being disorganized."



Plan XVI of 1905
The dominating idea of the plan of concentration was maneuver

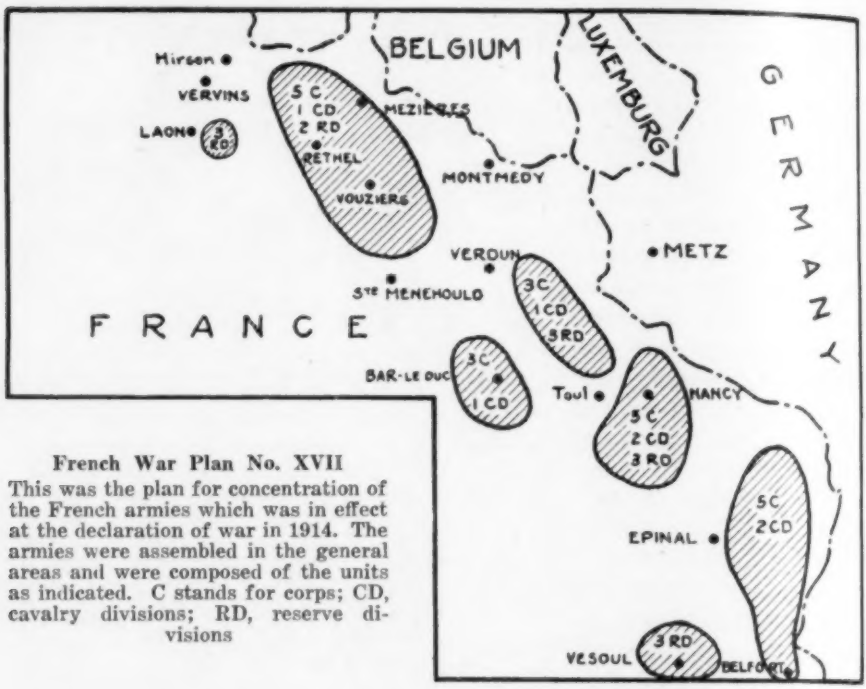


Plan XVI as Modified

And meanwhile the cult of the offensive was continuing to grow.

THE CRISIS, 1910-1911

According to the testimony of General Maleterre given before the commission which investigated the loss of the Briey Basin in 1914, the doctrine of the École de Guerre had never been official, but the army commanders adopted or rejected it according to their wishes. Nevertheless, the fact remains that class after class of graduates carried the doctrine which prevailed there back into the army, and inevitably made its influence felt; until it came to pass that the shortest road to preferment lay in conformity with it. Now an influential group, as well as



French War Plan No. XVII
This was the plan for concentration of the French armies which was in effect at the declaration of war in 1914. The armies were assembled in the general areas and were composed of the units as indicated. C stands for corps; CD, cavalry divisions; RD, reserve divisions

a numerous one, had adopted extreme views which were based upon an open contempt for history, and their opinions were gradually coming to replace those of the older generation. In 1910 there was created the Institute of Higher Military Studies to train the best lieutenant colonels of the general staff for high command. These soon became known as "cadet-marshals." They were the élite of the élite; and soon they formed the nucleus and center of general staff influence.

Now, as General de Selliers de Moranville, who was the chief of staff of the Belgian army in 1914, points out, the growth of democracy involved the consideration that group opinion must outweigh individual opinion. "The French army," he says, "was subjected to this consequence of a democratic régime, and one saw there the collective irresponsibility of the general staff officers counterbalance and at times dominate the generals." That is to say, as the military machine increased in size and complexity, no longer could a single mind comprehend all the details, but the general officers were forced to rely upon specially trained subordinates to assist them. Not only influence, but often authority came to be exercised by general staff officers, including authority and influence over those who were their superiors in rank. Many a general was willing and eager to please an influential staff major or captain or even lieutenant. According to de Pierrefeu, "Just as there is in a temple a holy of holies, just as the princes of the blood are raised above the nobility, so among the general staff officers there was a rigid process of selection culmi-

nating at the very top in the officers of G-3." Powerful, ambitious, courageous and zealous, they were strongly filled with a belief in the superiority of their particular views over those of their superiors in rank whom they considered as old men, and as "hamper and hinder and scold men," and for whom openly they professed contempt. This clique which came to be known as "The Young Turks," began to be conscious of its power as early as 1907. The "high priest" of the new cult was then Lieutenant Colonel de Grandmaisons, who at that time confidently stated:

> The regulations will be changed. A certain number of us young officers are strongly convinced of the rightness of our ideas and of the superiority of our theories and methods, and we are firmly resolved that they shall prevail despite all and against all.

GENERAL MICHEL ASSUMES CONTROL

This sort of thing had been brewing for some time when, in 1910, General Michel became the commander-in-chief designate for war. That is to say that he was made vice-president of the War Council, of which the Minister of War is ex-officio president, and as such he was charged to prepare himself to command, in case of war, the principal group of armies: those of the northeastern frontier.

Among the General's first acts was the supervision of the Picardy maneuvers of 1910 in which he used reserve units in close association with units of the active army. To this innovation the general staff was opposed, on the ground that it would tend in war to slow down the offensive. In December of the same year General Michel held maneuvers involving all army corps on the frontier from Metz to Belfort, in which Generals Gallieni, Foch, Pau, Castelnau and Joffre took part, the latter as commander of the S. O. S. As a result of these maneuvers General Michel was convinced that there was no hope of an immediate decision in this area, and that the Germans must make their main attack through Belgium. He stated that "Germany will not hesitate to use in that attack the greater part of 42 active or reserve army corps which today she can put in the field."

Now, there was nothing very astonishing in this expectation which today we know to have been correct, for as early as 1906 Colonel Repington had demonstrated quite convincingly that it was highly probable that this would be the German plan. In *Imperial Strategy*,[4] he said:

> The Germans . . . appear to desire to indulge themselves in the luxury of a tactical defensive in the Reichsland . . . followed by a strategical offensive, and it only remains for the French generals to oblige by graciously adapting their practice to the German desires, *que messieurs les Français commencement.*

Colonel Repington then referred to the prepared defenses which the French were so astonished to find in 1914:

> It will not be a matter for surprise if the Germans should prefer to allow the French armies to take the initiative on this particular front and break their necks against prepared positions in the opening phases of the war. Afterwards, of course, the German armies would pass to the attack.

COLONEL REPINGTON'S FORECASTS

Nor was this mere speculation without substantial evidence: Colonel Repington had, in addition to other fairly

[4] London, John Murray, 1906, p. 243, 255 ff.

convincing data based upon the German preparations on the Belgian frontier, the following:

We may, perhaps, penetrate the German brain by study of the third volume of the *Studien zur Kriegsgeschichte und Taktik*, recently published by the Historical Section of the Great General Staff. There are, indeed, no recipes for victory in this excellent treatise, and the *leit motiv* can only be discovered by thinking of strategy while we read of tactics. But we have brought before us, with somewhat remarkable persistence, the declaration of Clausewitz that the defensive is the stronger of the two forms of war, though it must only be regarded as "the premeditated adjournment of the decisive act"—that is to say the attack.

But this was more than a military problem: it was a problem of statesmanship. Repington turned to history for information regarding the probable attitude of the German government, and he concluded:

German theory and German practice are always frankly opportunist when war is concerned. The Army must conquer. Nothing else counts. That is the German principle, and German history confirms it. . . . Germany might enter Belgium at the outbreak of war . . . if France were to supply the slightest motive for such action, and . . . *even if such pretext were wanting, she might invoke military necessity for such a step.* Precedents foreshadow it and military interest might demand it. . . . In what degree was Denmark saved in 1864 by the Treaty of Guarantee of 1852? She was not saved by treaties; she was attacked and dismembered in spite of them. In what manner was Luxembourg treated in 1870? Prussia declared that she would not "se considérer comme liée plus longtemps par aucun considération relative du grand duché de Luxembourg qui serait de nature a entraver les opérations de l'armée allemande."

THE offensive wins by delivery of a determining blow along the decisive strategical direction. Von Schlieffen understood that that decisive strategical direction, in an operation against the French, was around the French left flank. His plan of operations is a beautiful illustration of a plan for an offensive operation. The operation failed, due to the fact that offensive action was not maintained along the decisive direction but was frittered away on non-decisive lines. — Howland, in "Military History of the World War."

ADVANCE THROUGH BELGIUM FORESEEN

Similarly, a few years later, General Michel was led to conclude that "It does not seem doubtful that all Belgium will be the main theatre of future operations between France and Germany." Antwerp, he believed, would be one of the German objectives. Accordingly he drew up a plan based upon his convictions. He proposed to concentrate about two-thirds of the French forces upon the Belgian frontier and hold the Eastern frontier with the remainder. He planned to have a force of 490,000 men opposite the frontier between Lille and Avesnes, 280,000 south of the Sambre and Meuse between Hirson and Rethel, and a reserve of 220,000 men around Paris—a total of nearly 1,000,000 men available to meet a threat through Belgium. For the eastern frontier he planned to use 300,000 men of the active army, to be reinforced later if circumstances allowed, by the 200,000 on the Italian

frontier, and, in addition, territorial garrisons. This plan was not even discussed by the minister of war, Messimy, who referred to it as "an insanity."

FORESAW ADVANCE THROUGH BELGIUM

Now the facts are not, as is sometimes represented, that the French general staff was so blind or so ill-informed or so stupid as to be ignorant or contemptuous of the threat of a German turning movement through Belgium. As we have seen in their war plans, the general staff had been haunted by such a dread for years. And so, in 1910, it was not that the War Council ridiculed the idea of Germany violating Belgian neutrality, but that it refused to credit the idea that it would be a complete invasion: it was thought that the Germans might very well invade Belgium a little bit, but few believed that they would invade it very much. Nor is this view as silly as at first sight appears: closer consideration may lead us to agree that it was not the French who were stupid, but the Germans.

In the first place, almost certainly, the Germans would find themselves opposed by six Belgian divisions if the invasion were general, while if it were confined to the south bank of the Meuse the Belgians might, according to the German way of looking at things, decide to be philosophic about it. Moreover, any extension of the invasion toward the coast would be almost certain to bring Great Britain into the war. This, directly, would involve only an additional two or three army corps; but indirectly it might release the French from the necessity of guarding their coasts and force the Germans to pay more attention to their own, thus throwing the equivalent of several more army corps into the balance against Germany. Here, then, we have the equivalent of six or seven army corps required as the possible price of extending north of the Sambre and Meuse. Moreover, the gateway into Belgium is narrow; and with the British and Belgian support taken into consideration, the possibility of embarrassing the Germans in a defile appeared good: they would almost certainly be forced to invade Dutch Limburg, thus bringing more troops into the field against them. And this was no fanciful idea.

> *FROM an operative point of view, the object of defensive action is to gain time pending the development of more favorable conditions for undertaking the offensive (e. g. through the arrival of reinforcements) or to economize forces on a secondary front with a view to concentrating superior forces for the decision.—Field Service Regulations, U. S. Army, 1923.*

The memoirs of von Moltke the Younger state that the German general staff actually did plan to march through Dutch Limburg; and, according to Captain van Voorst of the Dutch general staff,[5] the I Army had maps issued for that march in 1914 along the roads Grave - Herzogenbosch-Tillburg-Turnhout. But this route was to be taken only in case Belgium offered no resistance, in which case the hostility of the Dutch army might be braved.

[5] *Army Quarterly*, Jan., 1924, p. 394.

Moreover, this course was to be adopted only as a last expedient since the Dutch were of more use to Germany as neutrals to keep open the mouth of the Rhine. Again, it did not appear possible to the French general staff that Germany could spare the troops for so great an extension of front without seriously weakening their line in Lorraine, unless she could make use of reserve formations as first line troops. This not only the French but many German officers,—von Bernhardi, for example—thought impracticable.

THE USE OF RESERVES

Here, then, was the vital consideration; that of reserves. General Michel considered it not only possible but wise and necessary that reserve troops should be used in the beginning. It was upon this belief that his plan was based; and when he was overruled on this point, his whole project fell through.

It was in July, 1910, that General Michel was appointed. In February, 1911, he reported his plan. This included first of all the question of reserves: it was a plan to reorganize the army upon the principle of the fusion of active and reserve units. A regiment of the active army was, upon the outbreak of war, to be placed with a reserve regiment in a demi-brigade; two of these formations would compose a brigade; a division, therefore, would be made up of eight regiments, and a corps of 16 or 24. Divisions would be increased in strength to about 35,000 men, and corps to 75,000 or even over 100,000 men. This, many believed, would make the unit of maneuver altogether too unwieldy. General Michel also insisted upon the necessity for heavy artillery.

On June 15 and 19, General Michel submitted his memoranda on reserves. To the general staff clan these were proposals to be fought to the last ditch. On June 30, Messimy became minister of war. Now Messimy was a reserve commandant of the general staff, a contemporary and friend of the younger faction, whose opinions he valued above those of the general officers.

GRANDMAISONS' INFLUENCE

Meanwhile, in January, an incident had occurred which had widened the breach between the commander-in-chief designate and the staff. The chief of the 3d bureau, or operations, was now Colonel de Grandmaisons. At the Center of Higher Military Studies he gave his famous "Two Lectures" on "The Crisis of the Offensive" in which he attacked the regulations of 1895 as too timid and appeared as the spokesman for the extreme school of the offensive at all costs. In these lectures Colonel de Grandmaisons condemned the use of advanced guards, of flank guards and all covering detachments and connecting bodies to keep touch with adjoining units: lest one lose power in the attack; the "offensive à

IF the military leader lacks a proper comprehension of tactics, if he loses his correct judgment of what is tactically possible, the success is jeopardized. All grand "Cannae" ideas become fantasies, a dangerous poison, as soon as purely tactical possibilities are overlooked.—Von Zwehl, General of Infantry, German Army.

outrance" would keep the enemy so busy that he would not bother the flanks or rear. These lectures were published in a book,[6] in which he stated:

We need not worry as to knowing whether the front we deploy will overlap that of the enemy. Should it even run a little short, from the moment when we impose upon our opponent the necessity of defending himself . . . his front will of necessity mould itself on ours.

This doctrine, while it places a magnificent emphasis upon the power of the human will, ignores the fact that when modern fire-power reaches a certain degree of intensity no flesh and blood can go forward and live and the more troops that are packed into the line to go forward, the more there are to die. Reserves, therefore, become useless as such; and gain their maximum effectiveness by being employed against the flanks of the enemy. (The war in South Africa had taught the cost of attempting, in the face of modern weapons, to pierce the front, and the value of turning movements.)

THE CONFLICT OF IDEAS

General Michel, although he himself was a partisan of the offensive—but not at all times, not under all conditions and not at all costs—dissented. To him, the general staff was getting out of hand; it was dictating instead of suggesting. Disciplinary measures would have been justified. But Michel contented himself with answering Grandmaisons, and on March 24 he undertook to refute the principal points made in the "Two Lectures." This act of temerity aroused the hostility of the "Young Turks": Michel must go. The "Young Turks" had friends in the press and in parliament. Above all, in July, they had their friend Messimy as minister of war.

PUBLIC DEBATE ON THE SUBJECT

The very day after he was appointed came the Agadir incident, which electrified France and made the subject of national defense one of primary interest. Messimy came into office with the mission to reorganize the high command. In military circles and in the press there had been criticisms. The generalissimo, it was thought, had insufficient powers. The then existing arrangement was that in time of war the chief of the general staff was to become the advisor of the minister of war, and the assistant chief of staff to become the chief of staff of the generalissimo. It was considered preferable that the chief of the general staff should become the generalissimo in war, and that the chief of staff of the army should become advisor to the minister of war, and that the post of vice-president of the War Council should be suppressed.

The question was thrown open to the public and debated in the Chamber of Deputies. It was an admirable opportunity to get rid of General Michel. M. Messimy is reported to have consulted able men about the situation: Dubail and Gallieni among others. At any rate the minister of war was given to understand that General Michel did not represent the ideas of the French army or enjoy its confidence. General Percin alone seems to have approved of General Michel's projects and to have thought that he could see the fine Italian hand of the general staff in the

[6] P. 48, *Deux Conférences*, Paris, Berger-Levrault, 1911.

business. Be that as it may, when the War Council met on July 19, the order was, first, the question of heavy artillery advocated by Michel, and, second, the question of reserves. Castelnau and Joffre reported against General Michel's projects, and, finally, they were rejected.

HIGH COMMAND REORGANIZED

On July 28 a decree was issued reorganizing the high command, and General Gallieni was invited to accept the post of chief of the general staff. He declined, on the ground that he was by career a Colonial soldier and that the appointment of such might arouse jealousy in the home army;[7] but there are those who believe that his real motive was that he was opposed to the extreme views of the general staff and was aware of the futility of attempting to combat them at that time. Pau was then approached. He too declined the honor. It may be a coincidence, but he too was opposed to the prevailing tendencies in the general staff. General Joffre was next invited and he accepted with pleasure, assuming the office on July 28. Joffre was now omnipotent in the army: he was supported by the new powers recently conferred upon the office, he enjoyed the confidence of the Minister of War and that of M. Poincaré, the president of the French Republic; above all, he was supported by the general staff.

Now, General Joffre may not have had a cultivated or a brilliant intellect, but he had the native shrewdness of his French peasant ancestry, he had hard common sense, and a strong character. It was not until long after he had been exercising supreme command that any doubts concerning his technical limitations appear to have arisen. For General Joffre said little: generally "Yes" or "No." It was only when the politicians had him on the carpet that he was forced to speak; and then many were forced to conclude that it was character rather than intellect that made him great. He was, in short, a generalissimo to the taste of the general staff.

And now the "Young Turks" had their way at last. The dogma of the extreme offensive was propagated. By some, such as Gallieni, Lanrezac, Mangin, Foch and Pau, it was not adopted; but by still others it was adopted—sometimes in the spirit of Galileo. The adherents made no secret of their desire to get rid of the remaining old-school generals.

DOGMA OF EXTREME OFFENSIVE WINS

Meanwhile some delivered themselves to extravagant excesses. Lieutenant Colonel Montaigne, for example, published in 1913 a work called *Vaincre-Esquisse d'une Doctrine de la Guerre*, in which he stated that war was a moral science, and that mistakes were moral errors: "Every defeat is a crime, and every one who is defeated is a criminal." In the same year General Lacroix, who had been commander-in-chief, was editor of the *Revue Militaire Générale*, and allowed to be published an article by Captain d'Aubert, which said: "To extend and threaten the flanks would be to confess that we have not the courage to push an attack right through. This is . . . the maneuver of cowardice."

But, as has been implied above, there was a fairly strong opposition

[7] Pilant, *Le Rôle du Général Gallieni*, p. 8.

among a certain group of officers, notably among those who had made a careful and scientific study of history so conducted as to keep their views in harmony with reality and to preserve them from the mystical delights of dreamland. General Bonnal, too, had replied to Colonel de Grandmaisons' "Two Conferences" in his book *Considérations sur la Tactique Actuelle,*[8] and in other writings. Lieutenant Colonel Savatier commented that the officers were too busy instructing others to instruct themselves, and he condemned the attempt to simplify all war to the one operation of a crude, frontal attack. Colonel Grouard in *La Guerre Eventuelle,* and in magazine articles, spoke of the probability of the German attack through Belgium and extending beyond the Meuse, and gave warning against "an initial offensive in which we are bound to be beaten." Colin, in *Les Grandes Batailles de l'Histoire*[9] made the following pertinent comments:

It is certain . . . that to found a plan upon moral or intellectual forces is to build upon the sands; they are inconstant, producing successes which are unforeseen and then are lacking just when they are needed. Napoleon, deep student of the human heart, so directed his attacks as to produce great moral effects, but he always so directed them as to assure numerical superiority at the decisive point. . . .

An army led without art and without prudence, concentrated from the first upon the frontier, runs a triple risk: that of being too weak to gain the victory at the decisive point, while being unnecessarily strong at those points where the enemy should be contained with the least cost; and, finally, of beginning with a half-success, perhaps encouraged by the enemy, but soon to be turned into complete disaster. . . .

He may, perhaps, if he possesses a great numerical superiority, act offensively at all points. He may at the same time attack on the Seille and on the Ourthe, in the Vosges and on the Semoy; but that would be to take a chance. As we have already stated, the theatre of war is sown with fortresses and natural obstacles where the offensive will be broken or worn to a standstill. . . . An army which has crossed the Belgian Ardennes will still run more risks when it has almost reached its objective.

These utterances were prophetic. The French army did indeed take the offensive everywhere; in the very places Colin enumerated they advanced to almost complete disaster. Following the will-o'-the-wisp of a mystical, preconceived doctrine, and scorning the lamp of scholarship, led by a group of fanatical doctrinaires, the French army was almost broken in a gallant but futile effort to exalt the human soul above all material limitations. They had a truth, which they mistook for *the* truth.

GENERAL CAMON'S IDEAS

At this time another French officer, General Camon, was pursuing a very different method, which we may allow him to describe in his own words:[10]

While a pupil at the École de Guerre, I had the good fortune to be present at those remarkable lectures in which Commandant Cardot taught Napoleonic warfare according to Clausewitz. Upon my leaving the school, I set to work to ponder the matter.

One day, while poking about the

[8] Paris, Librairie Chapelot, 1912.
[9] Paris, Ernest Flammarion, 1914, pp. 304-310.
[10] *Le Système de Guerre de Napoléon,* Paris, Berger-Levrault, 1923, p. 9.

quais, I found there at a ridiculously small price, the 32 volumes of Napoleon's *Correspondence*.

Reading that soon made it clear to me that there was much more instruction in the campaigns of the Emperor than Clausewitz had found.

At the same time I was amusing myself with the study of the theory of evolution by means of which the followers of Lamarck, Geoffroy-Saint-Hilaire and Darwin sought to determine the laws governing the relations between living organisms.

Instinctively applying the pregnant methods of the naturalists to the study of military problems, I was led to note that the principal entries of Napoleon into campaign followed the same scheme. The same observation could be made concerning his principal battles.

From that time on I had a theory of Napoleonic warfare. . . .

Then, comparing with these abstract systems the actual plans of maneuvers and of battles, I sought to discover to what degree and how they differed. Easily enough I came to discover the reasons for the modifications introduced into particular cases where they differed from the normal system. Thus the very exceptions proved the rule.

This was in 1898. In 1900 Camon became an instructor in military art at the Artillery and Engineer School, where he remained until 1910. Meanwhile he published his *Guerre Napoléonienne: Précis des Campagnes*, in 1903. Among certain acquaintances he made converts. But nothing could now make headway against the tide. Not only was promotion slow or denied to officers for political reasons, but also for nonconformity in doctrine. In 1911 the École de Guerre had been placed immediately under the chief of the general staff. A year before a heretic had been heard there: now that heretic was the high priest of a new religion; and it tolerated no heresies. Unity of doctrine was insisted upon; and independence of thought was stifled or, at least, discouraged. This had been one of the objects of the reforms of 1911. The minister of war, Messimy, said in *Le Matin* of August 1, 1911:

> To realize unity of thought and of direction . . . . there is only one solution: to place the commander-in-chief designate at the head of the general staff of the army. This is the solution which has long been advocated by the great majority of officers of the young army.

But, unfortunately, the unity, when it came, centered around the false doctrine of the "offensive à outrance."

I

Reasons for Criticism

Economy is a virtue when it is applied with sagacity and a comprehension of needs and a refusal to sacrifice them. When there is neglect of necessities and a failure to adequately provide—as for our national defense—there is reason for criticism.—*Army and Navy Register.*

Exercise vs. Imagination

By a Tired Army Man

A RECENT cartoon shows a "beautiful friendship" beginning with the meeting of two business men and the discovery that neither started the day with a course of exercises.

Now I am an American male, albeit merely an Army officer, and I want to join that beautiful friendship. I am entitled to do it. To be downright frank, I have tried about every system of calisthenic exercise extant and I find them of no benefit because I do not enjoy them. Apparently I cannot learn to love them. To me any exercise is just plain, dull, dreary work unless I get some fun or at least a sense of satisfaction out of it. No physical benefit appears to be possible where such a mental attitude exists.

> Mental relaxation is a requisite if one would derive the maximum benefit from physical exercise

Of course it is easy for others to prescribe for me a change in my psychology. They have done that numerous times, and I have tried to follow their prescriptions but it is no use. It is too much like telling myself that I am not fond of brunettes when I most emphatically am, or that I dote on creamed carrots when I have inside assurances that I detest them. No, there is no use in exploring that field. It is as fruitless as the pursuit of philosophy, which has been defined as a blind man looking in a pitch-dark coal cellar for a black cat that isn't there! A man may know full well that he likes chocolate parfait or thrills over tripe but he cannot tell why he does so. No more can he tell why one form of exercise makes a hit with him and another fails.

Since I am not writing this article to be facetious but to present an authentic case for comment, let me mention briefly how I stand with reference to various standard forms of exercise:

Indoor Exercises—All forms of indoor exercises, club swinging, weight lifting and daily-dozens leave me cold, although in times past I have practiced them faithfully and hopefully. There is something about such exercises that has always appealed to me as being particularly futile. The routine of doing the same thing over and over again breeds in me an active resentment that must adversely affect my gland secretions. "Doing the Dozen" to music I have never tried because something inside tells me that my close neighbors whose friendship I desire to retain, have a right to protest against such disturbance of their morning or evening peace. Now, to remedy an intermittent ailment I once followed the advice of a physical culturist and went manfully for some weeks through daily exercise of the abdominal muscles. Results? Exactly nothing. My trouble seems to center in what I eat coupled with my mental state during meals, and immediately thereafter. If I "think business" while eating, or concentrate on

work too soon afterward I pay a penalty whether I exercise or not—and exercise does not seem to lessen the penalty in the least.

Riding—Formerly I did a great deal of riding when the horse did not protest too much. But detached duty has made me a city dweller and city dwellers must follow bridle paths if they ride and bridle paths for the most part are good for only one abreast. Consequently even when I had a partner I found myself riding alone much of the time and doing a lot of desk work in my head instead of relaxing. Exit riding.

Hunting—This brought me many a thrill as a boy for I ranged the woods from the time I was able to stand up under a 12-gauge gun. But nowadays I hang my head when I recall the useless slaughter of wild life for which I was responsible and I can take no more pleasure in it, even if I had the time and opportunity for it.

Golf—Somehow golf has not yet taken with me although I have tried the game. The superiority which as a youthful tennis enthusiast I used to feel toward croquet playing has been transmitted to golf. And this is not because I take any stock in the old gibe that a man who will chase a golf ball is too old to chase anything else. Too many of my golfing friends are qualified chasers in other lines! But I find that a round of golf amounts to nothing more than walking with me, particularly if I play with my wife or some other good-looking girl,—and such walking comes high.

Tennis—This is a game that I played for 20 years and gave up with genuine regret. The surrender was due mostly to the fact that I have not been lucky enough in recent years to live anywhere near a court and cannot afford club dues merely for the sake of tennis. The last club to which I applied for summer tennis playing privileges rated them at $60 per to non-members!

Swimming—This is good enough fun although I never learned early enough in life to be much good at it. There is never a pool within reach. For a year I tried swimming in a "Y" pool before lunch and during my noon hour off, but the time consumed in undressing, swimming, shower bath and dressing again proved to be so great that I was forced to fall out.

Walking—S u c h "non-productive" exercise as I now get comes with walking, and this degenerates into plain, *useless* work of little apparent benefit and rather a bore unless I have good company. Sauntering goes fairly well at times but the exercise sharks say that for a walk to be physically beneficial it should be brisk. Of all forms of walking, that on shipboard seems to me the most futile. I am always just enough uncomfortable at sea to feel my resentment mounting higher at every turn of the deck, and the pot boils over when the ever-present, stall-fed chump comes along and gives me a resounding clap on the back and assures me that if I will keep on walking I'll soon feel much better!

The great majority of my friends appear to get satisfactory exercise out of golf—weather permitting. There are some who apparently get a thrill out of stereotyped exercises but I am inclined to think from what I have observed that the country has a number of tired Army officers, like me, who experience a hearty distaste for such routine every time they undergo it. Still they un-

dergo it if rain prevents their chasing the pill. These men seem to miss the point that a hostile mental attitude may have a physical aftermath harmful enough to offset any good result from muscular activity.

My case boils down to the fact that there is a closer relation between the mental and physical states induced by exercise than most people realize. Being a gregarious chap, companionship means more to me mentally and consequently physically than any exercise taken in solitude.

So, I have found that "the approved solution" of my problem is *work*, plain and fancy manual labor. Keeping up a home whether rented or owned is quite a contract; mowing the lawn involves walking,—but walking to some purpose, particularly if one's wife (too busy at her own tasks to accompany one on a random stroll) has her eye on the project and furnishes the lemonade and commendation when it is completed. Painting the roof brings into useful play unsuspected muscles; digging in the flower beds has it on golf two ways from the jack if sweet peas bloom as a result of one's labor. In fact there is nothing like a couple of hours' work toward some useful end for inducing perspiration and clearing away a grouch. Incidentally it saves money and likewise improves one's standing with the woman who married him.

Contrary to both spirit and letter of the regulations? Doubtless, but what would you do? Better obtain beneficial exercise in connection with useful labor than lose both time and benefit in attempting to obtain it through non-useful activity under the name of recreation. My conscience has toughened to the point of accepting this doctrine, though it has not yet reached the stage of allowing me to take my exercise on the front seat of the family flivver!

Increase in the Army Air Force

We do not believe that in authorizing an increase of 6,240 men in the Army air force, Congress had any thought that this was to be effected by the transfer of 6,240 men from the ranks of the Regular Army to the air service. If such had been the interpretation of the measure when it was before the two houses, there would surely have been sharp opposition, not only from the floor but from Army officers, from air service officers themselves, so far as they felt privileged to express their views, and from the press and the public.—*Columbus Dispatch.*

Cause and Prevention of Colds

By *Major* A. P. Clark, *G. S.* (*Medical Corps*)

AS an individual and group problem our attention is being more and more attracted to the economic aspect of the common cold. In the frost belt of our national area we are just approaching the season when the economic loss attributable to this malady reaches its peak. The cold itself is but a single factor, its after effects being not infrequently of greater significance than the attack itself. While from the viewpoint of material comforts our living conditions in this country are improving by leaps and bounds, this scourge is ever in our midst threatening alike the young and the old, the weak and the strong. One iconoclast has asked: "What matter that we are the greatest industrial nation in the world if we cannot prevent the common cold?"

> One of the greatest hindrances to maximum efficiency in the Army, as well as in civil life, during the winter months is the prevalence of the common cold

Both the military and economic sides of this question support us in approaching it from the group and individual standpoint. The soldier as an individual should be the very embodiment of health; he naturally resents an illness almost as a blotch upon his escutcheon. He knows equally well that his duty to his commander and his comrades is first to keep well, second, to do all in his power to recover quickly if he becomes a casualty and third, to preclude the spread of his disease if of a communicable nature.

Generally speaking, illness in an army in peace time is simply a loss to the government, except as we know an officer or an enlisted man is judged to some extent from an efficiency point of view by his ability to keep well and on the job. Preferment rarely comes to the man who is constantly on sick report and in the end he is usually eliminated in one way or another. In civil life health is practically a prerequisite to the winning of one's bread.

In the respiratory group of diseases the common cold is by long odds the most frequently encountered. It is, in fact, so frequent as to be taken almost for granted. But as we all know only too well, it makes us sick and miserable and a nuisance to ourselves and others for a period of many days. It interferes with our work and our pleasure and as is not so generally known it many times leads to worse things in its more serious complications and sequellae.

In the military service our work is our hobby—we exhaust its every possibility—and yet the average person who looks upon the cold as a minor ailment knows it to be a drain upon his nervous energy and strength; he has, however, but scant knowledge of

any phase of the condition except the symptoms. If, by a process of education and the application of a few simple principles, we can head off even one cold a season it would appear well worth our while. To do this we must know why and how we take cold and the limitations of prevention and treatment. If by chance the individual concerned takes the matter so seriously that it becomes even a near hobby there is little likelihood of his having a cold at all—the condition seems to be about 90 per cent preventable.

INDOOR LIFE INCREASES SUSCEPTIBILITY

The cold is after all a simple infection of the mucous membranes lining the nose and throat. It usually extends to the eyes and many times to the ears and to the sinuses in the vicinity of the nose. It is an infection with one of several straihs of bacteria. As a matter of fact, we usually carry these germs in a quiescent state in our noses and mouths at all times. We are, therefore, most of us, in the "carrier state" chronically. This is particularly true during the winter season and even truer for those of us who spend the majority of our waking hours indoors. Outdoor life lends partial immunity; indoor life greatly increases our susceptibility. Indoor life, when associated with crowds, unless conditions are of the best, is probably the greatest single predisposing factor.

The extent of the parts involved largely accounts for some of the worst symptoms. We ordinarily think of the lining membrane of the nose and throat as a small area. It is, in fact, quite extensive and offers a really large surface from which the poisons are absorbed into our system. But these surfaces are remarkable for their amazing collection of crevices and blind alleys forming natural catch basins for the bacteria from the dust laden air that we breathe in modern urban communities. The anatomy of these parts, however, is no accident of nature. Like all other things in this wonderfully made body of ours, there is a reason.

The nose is placed where it is and is built as it is to protect our lungs and throat from dirt and dust. As dust is deposited so are bacteria and as a result the nasal passages are constantly harboring the cold organisms for indefinite periods. But the nose has even a greater mission in our interior economy. The large surface in its small interior is primarily for the purpose of balancing the temperature and moisture content of each breath we take. If the air is too hot it cools it; if it is too cold it warms it. If the air is too moist it will not hurt us but if it is too dry it is very irritating and the nose must moisten it. Summarizing briefly then, we see that in breathing, air passes over the mucous membranes of the upper air passages extracting warmth and moisture and depositing germ-laden dust.

BURDEN THROWN ON NASAL PASSAGES

In general, throughout continental United States, in summer we live out of doors or under conditions that are its practical equivalent. These conditions throw no great burden upon our air passages in the matter of supplying warmth to the respired air and, as for moisture, the relative humidity is either high or sufficiently high to

meet the needs of the situation. But as the summer and fall seasons pass and we are confronted with winter conditions a vast change supervenes in the environment of most of us. This is particularly true where the snow fall is heavy without extreme cold. We live more indoors and resort to artificial heat. In mid-winter our living rooms are heated not infrequently to a temperature of 80 degrees Fahrenheit and rarely average less than 75 degrees. The humidity, however, gradually falls as we shut out the winter winds until in the ordinary home it ranges around 15 to 25 per cent relative, many times lower. The air in these rooms is overheated, undermoistened and changed less often than is required.

DRY AIR OF ROOMS HARMFUL

The mucous membranes of the eyes, nose and throat now begin to carry a serious load. This burden falls for the most part upon the nasal passages. The hot dry air removes moisture from the nose faster than it can be replaced by the blood stream. Because of the low moisture content of the air we fail to realize how hot the room is unless we are actually looking at a thermometer. This is because in hot dry air the body gives up its moisture through the skin so fast that the temperature of the individual remains normal through the process of evaporation. If the humidity were higher we would be unable to evaporate the moisture from the body and our temperatures would rise and we would then notice the heat. This important principle will be discussed in a later paragraph.

Reverting now to the burden which is thrown on the nasal membranes, we see that they are constantly being dried out by the hot undermoistened air. This causes them to become swollen, red and irritated and particularly susceptible to infection with the cold organisms that are already on the ground awaiting their chances. Furthermore, the room conditions in attracting more blood to the skin surfaces in an effort to regulate our temperature also draw the blood away from the mucous membranes of the nose. From one cause or another then the mucous surfaces under these conditions are dry, relatively bloodless and decidedly off their guard. This is when infection occurs.

We must, however, go further in our search for the conditions that lead up to the taking of a cold. These conditions will be found still associated in part with the winter season. If the living conditions just discussed were perfect we would find it still possible to fall heir to a cold. The next point bears upon the influence which the loss of body heat has upon this tendency. If we lose our body heat too fast we chill. To prevent this is at least one of the reasons why we wear clothing. After all, the great point is the relationship between normal body temperature and the temperature of the things with which we come in contact, whether they be air, furniture, clothing or what not, and in all of this relative humidity plays a stellar rôle.

KEEPING THE BODY HEAT

Throughout the day and night we are losing water from the body through the skin, and therefore the clothing, and at the same time very

slowly losing heat. This is a normal physiological process fully compensated by the food intake. Our body comfort largely depends upon the ability of the skin to lose this moisture and heat. But the skin in turn can only lose this moisture as fast as the air can take it up. If the air is already saturated with water we will perspire but will not get cool. On hot, humid days, therefore, we suffer somewhat more because we cannot lose our heat fast enough—but on such days we rarely take cold. On the other hand, if we indulge in strenuous exercise we produce heat rapidly and lose it rapidly, depending upon the moisture in the air. If we stop exercising and sit down to cool we lose our heat faster than we are producing it unless again the atmosphere is already saturated and there is little air movement.

WEARING OF PROPER CLOTHING

Fancy now what happens on a cool, dry, breezy day when one gets heated up and in a perspiration in a fast tennis game and at the end sits down to rest by the court. Of course, this is foolhardy to say the least and is an extreme case, but it has been used purposely to bring out what happens. This individual stops producing heat and begins to lose it rapidly. Whereas his temperature has been above normal, it rapidly sinks to sub-normal and he chills. In the chilling process his blood continues to rush to the skin surfaces in an attempt to neutralize the cold surfaces and it therefore leaves the mucous membranes of the nose and throat and they take on a condition similar to that when in the hot, dry room in winter. They become immediately prone to infection.

Conditions of this kind in varying degree occur with us more or less constantly and are among the more important predisposing causes of a cold.

Clothing in its normal state insulates us from the cold. After exercise, however, our clothing is moist and instead of protecting us it actually attracts the heat from our bodies. So clothing is for purposes of insulation and yet generally speaking the less worn the better so long as muscular activity maintains our heat. As this activity is decreased the body temperature must be held up, if necessary, with more clothing. But too much clothing brings on perspiration and this, if excessive, means clothing with too high a moisture content and a concomitant loss of heat. Every grown-up is familiar with the fact that when we stretch out for a nap in the day time it is best to throw some light cover over the body. Again, a question of loss of heat. One surface of the body is relatively warm and the other cold if we fail in this and we will chill and take cold. A draft blowing across the body merely hastens the chilling process.

OUR BATHING HABITS

No discussion of the cause of colds is complete unless we have considered our bathing habits. A few people, the very young, the very old and invalids, do not stand well a very cold bath. A majority of healthy men, women and children stand the ordinary cold bath exceedingly well, in fact, usually come to look forward to it as the only proper way to start the day. Almost no one stands well a very hot bath too long continued, even if followed with cold water. We are

prone to overdo the hot bath in winter. If a hot bath is taken daily we must do it most intelligently. Keep in mind that it raises the temperature if indulged in for more than a few minutes. And the temperature will later fall to a sub-normal level with the natural excessive loss of heat. Again, we subject the mucous membranes to infection. A very hot bath too long continued is truly an invention of the devil.

Raising the moisture content in our room air is of primary importance in the prevention of colds. It is generally supposed that this can be done by placing pans of water on the radiators. The hygrometer proves that the effect of this is negligible. In the course of a dry winter day the air passing through the ordinary seven-room house with any decent system of ventilation will absorb from twenty to thirty gallons of water and still the humidity will hardly rise to the desired 50 per cent. The only practical method of obtaining such results, if you have a cellar, is just calmly to throw a few buckets of water down the cellar steps every four hours. There is a persistent reaction against wet cellars and this is easily understood in rainy weather. But if one can keep his cellar wet in winter with the furnace going he should consider himself lucky and not bewail the fact. Naturally the cellar door into the house is left open a few inches in order that the warm moist air may enter the house from the cellar and the cool dry air can return.

While it may appear remote it is a fact that our eating habits may render us more susceptible to colds. We eat to maintain our body weight and strength and in order that our "internal combustion engine" may convert this fuel into heat energy. If we over-eat we produce too much heat and pile up fat in our tissues. The excessive heat makes us perspire too easily and the possibilities of chilling are greater. Furthermore, excessive eating tends to lower relatively the normal alkaline reaction of our body fluids. The same condition follows over exertion and fatigue and is associated usually with infections. It is popularly termed a state of acidosis; it is in fact only a lowered alkalinity. The alkaline equilibrium is very sensitive and any lowering of this content predisposes us to infection: this is one of the largest factors in being "out of condition." Under such circumstances it is particularly desirable to avoid the contact with crowds or individuals suffering with a cold and to beware of the several other conditions just discussed.

DEEP BREATHING

We must also consider here some of the other and seemingly less important elements of our daily life. Our posture should be right when walking, standing, sitting or even when lying in bed. We should sit, stand and walk tall; in bed we should stretch out. This permits deeper breathing and deep breathing scavenges the lungs. These are factors never to be overlooked in our efforts to withstand infection. To breathe badly is no less a deviation from health than is constipation. But these defects if they exist are readily corrected by the individual himself.

Another group of defects confront

us which are even more important and the neglect of which greatly increases our chances of taking cold. But they require help from outside. This group is of more or less natural origin. It includes diseased tonsils, growths of adenoid tissue and deformations of the nasal septum that interfere with normal nose breathing. Growths of adenoid tissue and enlarged and unhealthy tonsils are natural and safe harbors for enemy germs. Like the deflected septum they demand surgical interference as soon as properly diagnosed. Anything that alters normal respiration lays one open to this type of infection. Mouth breathing, usually a result of deflected septums, is harmful, as the mouth is poorly adapted to warming and moistening the inspired air and not adapted at all to removing from it the dust and bacteria. The evil of this situation is at once apparent.

ATTACK A COLD EARLY

In discussing the symptoms it is only necessary to devote space to phases of these that are of special significance. Most of us know full well the symptoms of a cold in the head. The symptoms that come early are due to very definite local conditions. In fact, throughout we have tried to show that the cold is largely a local infection. The early symptoms are very important because the cold once started the earlier we attack it the more likely we are to confine it to the nose. We rarely abort a cold, but we can influence its course and severity. When we know we have exposed ourselves to infection in any of the ways described, the least we can do is to be on our guard and take such measures as will be offered before we finish our discussion.

The first real signal is the desire to sneeze. This is due to the irritation of a hot, dry and swollen membrane. It is nature's effort to moisten and cool this delicate structure. Note how the secretions flow after sneezing. The period of congestion follows quickly and the passages become blocked and greater difficulty is experienced in breathing. Infection has now set in and the watery discharge appears to be followed gradually by a thicker discharge, the product of the infected membranes. It is during this period of discharge that absorption occurs with the resulting rise in temperature and general feeling of utter worthlessness. The thicker the secretions and the greater the difficulty in removing them the more marked the local and general symptoms. Our efforts are therefore directed at keeping the secretions liquid and removing them and doing all in our power to soothe and protect from injury these delicate and highly inflamed membranes of the nose. Nothing can be more important than to preclude the injury to a mucous membrane, for once lost it is never reproduced. Anything but the mildest interference is to be condemned. Even constant blowing of the nose should be avoided. This point about injury cannot be overstressed.

In the usual untreated or poorly treated case the cold runs its course as the system builds up immunity against it in from a few days to several weeks. In cases that persist beyond a week or ten days there is usually some involvement of the sinuses or bony spaces connecting

with the nasal cavity. This, like extension upward into the middle ear or downward into the chest, is a serious complication. These are mentioned only by way of pointing out the untoward possibilities of our common cold.

In discussing the predisposing causes of this infection we have covered by inference much of the prevention. Before adding to this it seems desirable to summarize briefly the rules that are indicated in cold prevention:

Removal of adenoids and diseased tonsils.

Correction of deflected septums.

Practice deep nasal breathing.

Adopt an erect posture with chest high.

Maintain the body at par.

Insure good elimination.

Avoid over-eating.

Keep room temperatures down to 70 degrees Fahrenheit.

Attempt to maintain relative humidity at 50 per cent.

Insist on reasonable air movement.

Have bedroom well ventilated but not too cold.

Avoid conditions that extract much heat from the body.

Shift the outer clothing to meet the daily change in temperature.

Exercise more in the open air.

Shift underclothing if very susceptible to cold to suit the season.

Protect the other fellow from your secretions.

Avoid the breathing of room dust.

Be cautious in frequenting public places when conditions are obviously bad.

Avoid the hot bath and make the cold bath a habit.

Consider seriously the early symptoms.

Educate those around you.

Consider the cold from the economic aspect.

We cannot too strongly urge the adoption of these rules but until their practice becomes second nature it is well to have some means, even though artificial, of protecting ourselves against the cold. We have tried to make clear that prevention is guided by the cause. Cause in this case is partially, at least, the entrance into the nose of bacteria-laden dust. If dust were elsewhere on the body we would remove it by washing. This is equally applicable to the nose. But it is not easy to wash out the nose. The atomizer is unsafe because it builds up too much pressure; besides it is not particularly efficient. The high overhead douche is worse and is much too complicated. The small glass Birmingham douche is simple, safe and satisfactory and was designed for this use and no other. Reasonable care and the exercise of a little judgment will permit its daily use with nothing but beneficial results.

WASHING THE INFECTED AREA

The selection of the fluid to use in the douche is not difficult. It must be simple, inexpensive, readily available and non-irritating. It should be slightly alkaline, mildly antiseptic and not too soluble. There is but one thing that answers to all these specifications; it is a solution in warm water of ordinary household borax—not boric acid. There are objections to the use of other well known substances, for example, common salt is too soluble and is painful; plain water is quite painful; baking soda is not antiseptic. The solution is made by stirring a quarter of a teaspoonful of borax in one-third of a glassful of luke-warm water. This amount will

make about three douchefulls of solution. The use of this morning and evening is an effective preventive measure.

In using the douche the forefinger should be placed over the filler opening in the douche and the tip placed against the nostril without pressure. The head should be held well back and solution allowed to flow in slowly until nasal cavity is full. The solution may be held in a half minute and then with the head lowered the liquid is allowed to drain out without any blowing at all and both nostrils open. It is particularly desirable to avoid blowing; the secretions and the liquid will drain out without blowing. Fill the nostrils alternately without hurry while breathing through the mouth. The bath and the nasal douche can both be taken in ten minutes. The bath should come last.

HOME TREATMENT

In the event we are so unfortunate as to contract a cold, the treatment differs little from that just suggested. In this, of course, it is understood that a cold is an illness and the patient should see his physician. But unfortunately the majority will do nothing of the sort. They will most frequently resort to an assortment of internal remedies that have little or nothing in their favor. At least the sufferer should take to his bed and remain there until the condition is under control and the temperature is normal in the afternoons. The diet should be low and elimination made free. The room should be cool but not cold and one should remain covered. The douche should be used every three or four hours depending upon the case with which the secretions are removed. If ten drops of 20 per cent argyrol are added to the borax solution, it will be much more effective. Even greater care at this time should be exercised to avoid blowing the solution and secretions from the nose—let them drain out. After each treatment a few drops of liquid petrolatum or olive oil should be allowed to flow into the nostrils to soothe and protect the membranes. Additional water should be drunk during the attack. This helps materially to eliminate the products absorbed by the system. The patient may also take a quarter of a teaspoonful of baking soda dissolved in a full glass of cool water two or three times a day to neutralize the acidity built up in the system. The drinking of copious amounts of lightly sweetened lemon or orange juice in water will also hasten recovery. If, in spite of all efforts, the condition hangs on or appears to be extending the calling of a physician should be delayed no longer.

In conclusion, it is safe to say that a large majority of colds could be prevented by purely hygienic measures without resorting to a single artificial device. It is not natural for a healthy human being to take cold. It rarely happens when we live in the open. It is closely associated with our habit of indoor living in winter. If we succeed in preventing even a portion of these infections we have added to our health and comfort and have greatly increased our usefulness in life. If we were limited to but two preventive measures we would certainly suggest the daily cold bath and more active exercise in the open spaces.

Supply and Distribution of Ammunition

By *Major* L. D. Davis, *3d Infantry*

THE only reason that the transportation and distribution of ammunition with combat troops has been, or will be, successfully carried out is to be found in the fact that the provisions of the tables of basic allowance have been, or will be, ignored. The disregard of course is trivial, and if any remarks appeared to be called for, surely they should be commendatory.

As is well known, these tables prescribe that for each rifle there will be carried on the combat train 120 rounds, for each automatic rifle 1,000 rounds with 50 magazines, and for each machine gun nearly 6,000 rounds. The teaching is that this supply is to be issued to troops at about the time the approach march is taken, or some convenient time before deployment. The act is commonly spoken of as the "issue of extra ammunition." That little word extra doubtlessly crept in without conscious thought or intention, but as so often with unconsciously developed description it expresses the truth more neatly than a whole page of studied writing.

> The supply and distribution of ammunition as it is prescribed for our Army today is considered to be impracticable and in need of revision

This practice of issuing the ammunition carried on the combat train just prior to deployment must be based on the assumption that the supply habitually carried by the troops themselves will not be sufficient to meet the likely demands. If in the usual event extra ammunition will be issued before going into action—and that is the method of supply—why not at that time issue practically the entire quantity considered necessary, thereby relieving the troops up until that moment of a considerable load? In other words, if the rifleman's 100 rounds is in most instances to be insufficient, why weigh him down with it for days and days? Let him carry 40 rounds, say, and if he must enter the fight with 220, issue the balance as extra ammunition. No appreciable longer time would be required to handle this than to get out the 120 rounds.

The figures just given I consider too large; they are used only as an example and as suitable to the present packing unit, the 60 round bandoleer. The total of 220 rounds is too large for two reasons. First, the soldier will tire of carrying it long before he has legitimate opportunities to use it in the way in which our men are trained, and will slough a goodly portion; and second, the combat trains would have to be increased to care for it. For the truth is that the combat trains may not even now transport the prescribed load of ammunition.

The regimental combat train has 18 wagons in the munitions section for the transport of ammunition, pyrotechnics, litters. The cargo capacity of this train is figured at 45,000 pounds, whereas the load is about 60,000

pounds. Or take the rifle company. It has in the battalion combat train one wagon with capacity of 2,500 pounds on which it is supposed to have about 4,500 pounds of ammunition. Or consider the battalion train as a unit, and we find that its load exceeds the cargo capacity by about 5,000 pounds. Of course the escort wagon can be loaded with more than 2,500 pounds of ammunition, but all our books say its cargo capacity is that weight. A load of that size would, under all the varying conditions of campaign, probably be about large enough, and certainly would be far more mobile than one twice as heavy.

Now no Infantryman advocates taking away from Infantry units their combat trains, for no one can appreciate as he does the importance of the principle that it is the responsibility of each next higher unit to keep its components supplied with ammunition. We read that the impetus of supply comes from the rear, but in a sense this is not correct; the momentum should derive there, but the impulse should be from the front. Otherwise we have a condition for which horrible examples may be found in the late war, of advance depots becoming so congested with supplies pushed forward that they ceased for a time to function. With the loads of ammunition and rations now provided for Infantry trains a somewhat similar condition results. We may have with us all of these supplies that could possibly be used but our mobility and maneuverability are reduced, and our worries augmented inasmuch as we have the cares incident to operating relatively large trains. Infantry trains should in no degree carry rolling reserves; their correct use is in the distribution of needed supplies placed at well forward points by supply trains, thus insuring to Infantry commanders full freedom as to distribution without worry of procurement. Our present Infantry trains are considerably larger than required for this.

From whatever point of view the subject is considered one must finally conclude that the supply and distribution of ammunition now prescribed needs to be changed. The change must not be made by adding vehicles to combat trains now too large; nor should already overburdened troops have their habitual load made heavier. If the Infantry is the principal arm whose business it is to close with the enemy, secure and hold the hostile positions, then I say we are now obliged to give too much attention and labor in keeping ourselves continuously oversupplied with an article which should be delivered when needed, in required quantities, by the proper serving branch.

Playing the Game

"It is not birth, nor rank, nor state,
It is playing the game that makes men great;
'Tis playing the game, an' you play its straight."

Clothing Allowance for National Guard

By *Colonel* D. John Markey, *General Staff (Md. N. G.)*

THE present policy in the National Guard provides that articles of clothing be issued and reissued as long as they are serviceable, and owing to the large turnover in the enlisted personnel, averaging approximately 50 per cent, it is necessary to issue to recruits a large amount of individual clothing that has previously been worn. This is undesirable for personal reasons and lowers the morale of the average recruit. Especially is this applicable to shoes, for it is impossible satisfactorily to use for reissue shoes that have been worn.

The operation of the existing policy in the Guard, together with the inheritance from the World War service of a lack of interest in the serviceable life of property, is conducive to carelessness in the wear and use of clothing. The conditions in the Regular Army after the World War and previous to the reinstitution of a clothing allowance were very much the same as now exist in the National Guard.

The company commanders of the National Guard, upon whom rest the major part of its burden, are proud of their organizations, and they recognize the urgent need of giving to each recruit new articles of clothing as well as the necessity of providing some means whereby this worn clothing will not be left in their company store rooms for reissue. But if the policy of giving to each recruit new clothing was placed in effect under present conditions it would entail a tremendous waste of property that would have been only partly worn.

The National Guard Association at its annual convention at St. Augustine, in January, 1926, passed a resolution in favor of a clothing allowance for the National Guard. Eighteen of twenty adjutants general at this convention stated that they believed that a clothing allowance would be both a desirable and economical measure.

If the National Guard were placed on a clothing allowance basis there would be accomplished an appreciable economy for a more satisfied personnel

The primary purpose of such an allowance is to provide for the better clothing of the National Guard and for the better care of the clothing. It is fundamental that if it is to the personal advantage of the soldier to take more care of his property he will do so, and it is only necessary to provide the inducement and he will supply the incentive. It is also true that the amount of care the soldier takes of his articles of clothing will be reflected in the care of all his military equipment.

The disadvantage of such an allowance is almost wholly represented in accounting. It will add to the paper work of the units of the Guard, but it is believed that this will be cheerfully accepted in order that this property problem might be solved.

The proper policy to be followed with respect to adopting a clothing al-

lowance for the National Guard appears to be as follows:

1. Determine the articles of clothing unsatisfactory for issue after having been worn.
2. Establish a reasonable average serviceable length of life for this clothing in National Guard service.
3. Fix the value of this clothing.
4. Divide the value of this clothing into the length of life of the clothing indicated for allowance.
5. Establish a weekly credit to the soldier in order that this property will be paid for by the Government during its estimated serviceability.
6. Provide that the value of this clothing less accrued credit be paid from first moneys due the soldier, either armory drill or camp, or both.

BASIC DATA ON CLOTHING

It is believed that the articles of clothing unsatisfactory for issue when worn are shoes, breeches, shirts, and hats.

The average length of serviceable life of certain articles of clothing was made the subject of a questionnaire at an Infantry brigade encampment in 1925, and 77 noncommissioned officers of more than three years' service indicated on questionnaires signed by them their estimates. The figures are, therefore, obtained from a class of men who have taken more than the average care that is ordinarily given to clothing. These replies indicated the average serviceable life to be as follows:

Hat, service	4 years, 7 months
Shirt, O. D., flannel	4 years, 4 months
Breeches, cotton	3 years, 11 months
Leggins, spiral	3 years, 10 months
Shoes	4 years, 1 month

The clothing allowance of the enlisted personnel of the Regular Army is as follows:

Hat, service	36 weeks
Shirt, O. D., flannel	29 weeks
Breeches, cotton	20 weeks
Shoes, service	20 weeks

It is estimated that there is approximately 20 weeks' wear on articles of clothing during the period of an enlistment in the National Guard for three years, assuming full attendance at armory drills, summer training camps and special events. Consequently, taking into consideration the average length of serviceable life of clothing in the Regular Army and a reasonable estimate of the clothing in National Guard service, the basis of the serviceable life of the articles of clothing should be three years for each of the items.

As there is on hand in the National Guard a large quantity of serviceable clothing that is, or can be satisfactorily reconditioned, it would probably be wise to provide, in the establishment of a clothing allowance, for the use of these articles of clothing. It is, therefore, considered desirable that in the initial institution of this allowance and as long as reconditioned property is available that provision be made for two options for the recruit.

OPTIONAL PLANS

The following are submitted as the two options for the clothing allowance:

Option No. 1:

Shoes, one pair, new	$3.38
Breeches, cotton (reconditioned)	.96
Breeches, cotton (one, new)	1.92
Hats, service (one)	2.83
Shirts, flannel (new)	2.50
Shirt, flannel (reconditioned)	1.25
	$12.84

(Eight and one-third cents per week.)

Option No. 2:

This option to be available as long as reconditioned property is on hand for issue. The reconditioned property is listed at 50 per cent of its list price.

Shoes, service (new)	$3.38
Hat, service (reconditioned)	1.42
Shirt, flannel (reconditioned)—2 @ $1 25	2.50
Breeches, cotton (reconditioned)—2 @ $.96	1.92
	$9.22

(Six cents per week.)

It will be noted in both options that the recruit is required to take a new pair of shoes, since it is considered undesirable to recondition shoes for satisfactory National Guard service. It should further be provided that when the above clothing is still serviceable at the end of three years' enlistment and the soldier reenlists, that this clothing allowance should continue as a bonus as long as property is serviceable.

SOLDIER HELD ACCOUNTABLE

This clothing allowance would require that the soldier have available this property during his enlistment and if it is lost or becomes unserviceable through his negligence that he will be issued replacements which will be charged on appropriate payroll.

The only uncertain factor in this allowance is the extra pair of shoes that is provided in present tables of allowances. The policy of giving a soldier the privilege of purchase without allowance of new shoes at list price or worn shoes at 25 per cent of list price would help solve this problem.

A clothing allowance plan should be reasonable and workable, and therefore provision is made in this suggested method that the allowance will not exceed the quarterly armory drill pay of a private.

The following illustration is given assuming that the recruit enlists at the beginning of any armory drill quarter. He selects option No. 1 and at the end of quarter has attended 12 drills and therefore has $12 pay accrued. His clothing cost $12.84, but he has accrued $1.08 through his clothing allowance of eight and one-third cents a week for 13 weeks, so his balance would be $11.76. This amount deducted from his pay of $12 would leave 24 cents. Under option No. 2 it would be $9.22 less accrued credit of 6 cents a week for 13 weeks, 78 cents or $8.44. This deducted from $12 would be $3.56.

It is true that for the first three months of his military service, the recruit is receiving his uniform and equipment, inoculation and the first principles of his military education. This is a part of his enlistment in which he is of the least value to the national defense. If for any reason he must be discharged at this time, he would take as his personal property the articles of clothing on his clothing allowance. If for any reason he is discharged at the end of his first year of enlistment he would take with him the same articles and for which he would have been reimbursed by one-third their value.

ILLUSTRATIVE EXAMPLE

This is further illustrated as follows: If a recruit is discharged at the end of year and has served in grade of private and attended the average number of drills (70 per cent of 50 drills) and summer training camp, he will have been entitled in pay to $50. His clothing allowance under option No. 1 would have amounted to $4.01, a total therefore of $54.01. There would have been deducted $12.04, leaving him a balance for this service of $41.97. He would have, however, for his personal

use the articles of clothing on clothing allowance whose value for wear would exceed amount originally paid as this value is based on the wholesale price of the articles.

It is not considered equitable from the Federal Government's point of view for a person to enlist in the National Guard and by serving in one of its units for a short while, wear certain articles of clothing, thereby rendering them unsatisfactory for further use or issue in National Guard service.

ADDITIONAL BOOKKEEPING

This entire subject and solution was recently presented to eighteen unit commanders of a National Guard Infantry regiment and despite the fact that the greater part of the additional bookkeeping was realized to fall on the company commander, they expressed themselves as unanimously in favor of the allowance and its application. They not only approved the policy as a material help in the solution of our property problems, but further stated that in their opinion there was nothing in such an allowance that was unfair to the enlisted personnel.

It is firmly believed that this clothing allowance will be of such value to the National Guard that it should be approved even if there would be represented an increase in National Guard appropriations. It is obvious, however, that the operation of this allowance cannot help but save money. The experience of the Regular Army in the matter of economy with the clothing allowance will be duplicated in the National Guard. It will further provide for a better basis of estimates for the clothing needs of the National Guard.

The important matter is to establish the principle of the clothing allowance and it will expand on its merits. It may be expected that the successful operation of a clothing allowance will permit an extension of other allowances to the National Guard upon a modified Regular Army allowance, thereby resulting in greater efficiency and economy.

Do Not Overlook the Cavalry

We all know that Infantry is the arm that wins the battle and that the rest of the team assists it to move forward and capture, or destroy, the enemy; but let us not overlook the Cavalry.

The great value of Cavalry is its mobility. On this continent it will always be first in demand. No line of trenches will stretch across this great country nor protect either frontier. In large forces also the possession of a large mobile mass of Cavalry trained in fire action that can promptly fill a gap in the line, can turn a flank, wreck communications or rout a beaten enemy, would be of enormous value to any commander.—*Maj. Gen. Wm. N. Haskell, N. Y. N. G.*

The Tank in the World War

By *Captain* George H. Rarey, *Infantry (Tanks)*

THE Third Battle of Ypres, July 31 to October 9, 1917, was an attack in force by the British in an attempt to break through the salient, held by the German army, near the ruins of the city of Ypres, in order that they might move against the German bases and clear the coast line of the threat of German domination before Germany could reinforce the Western Front with troops and guns from Russia.

Approximately six weeks were spent in getting ready for the battle as it was to be a "big show." Every detail was arranged for, including the longest artillery bombardment undertaken by the British army up to that time. This bombardment was to consist of eight days of counterbattery work starting on July 7, followed by sixteen days of intense bombardment.

The tank was given a most unfavorable test by the British in the Third Battle of Ypres in 1917 when it was asked to maneuver over a morass

Keeping in mind this plan for a 24-day artillery preparation and remembering that tanks were to be used in this battle, let us take a look at the terrain as it was just prior to the beginning of the counterbattery artillery firing.

Major Ellis, in *The Tank Corps*, says: "The enemy's lines lay on the slopes of the semicircle of low hills that overlooked Ypres. Behind him lay another swampy valley, which rose again to another slightly higher crescent of hills. In the inner arena lay the ruins of Ypres, and, set in the marshy levels . . . lay our lines." John Buchan, in his history of the World War, describes this locality: "The territory lying within the crescent was practically all reclaimed swamp land, including Ypres, and as far back as St. Omer, both of which, a few hundred years ago, were sea ports. All agriculture in this area depended upon careful drainage, the water being carried away by innumerable dykes. So important was the maintenance of this drainage system considered, that in normal times, a Belgian farmer who allowed his dykes to fall into disrepair was heavily fined."

For approximately three years the British and German armies had faced each other across this terrain and shelling of this low ground had so destroyed the dykes that what had been an agricultural district, was now a sodden mass of mud and water.

In view of the condition of this terrain before the battle started, and, taking into consideration the British plan of preparation as a whole, it is evident that they were building for success with one hand, while doing everything possible to prevent success with the other; they were taking plenty of time to prepare all branches of the Fifth Army for the attack; but included in their plans the intense bombardment, which would remove whatever firm ground there might still re-

main for their use, making it next to impossible to use tanks and making the terrain into a serious obstacle for all arms. Colonel Fuller in *Tanks in the Great War*, says: "From the tank point of view, the Third Battle of Ypres was a complete study of how to move thirty tons of metal through a morass of mud and water."

However, an artillery bombardment was still considered to be the best way to start a battle and the longer the bombardment, the better the start. The British had not the tanks in sufficient numbers, nor had they sufficient confidence in their new weapon as yet, to allow it to initiate the action in place of the artillery.

TANK ALLOTMENT FOR THE BATTLE

The tank allotment for this battle appears to have been more generous than formerly. Two hundred and sixteen tanks in all were designated for the Fifth Army. The reallotment by the army to the attacking corps, together with the corps distribution to the attacking divisions was better planned, in some respects, than former actions. Seventy-two tanks were allotted to the Second Corps, 72 to the Nineteenth Corps, 36 to the Eighteenth Corps, and 36 were held in army reserve. In each corps the tanks were allotted according to the objectives, a certain number of tanks being designated to attack a given objective on a certain line, and each corps in turn kept tanks in reserve.

The frontage of the Fifth Army, Ypres-Comines Canal to the Wiltje Cabaret, was flanked by two strong positions, the Polygonveld and Houthlust Forest, which formed two bastions with a semi-circular ridge of ground as a curtain between them, while in front of this ridge was a broad moat formed by the Steenbeek River and its tributaries. Briefly, the frontage of each corps was as follows: The ground in front of the Second Corps was broken by swamps and woods with only three possible approaches for tanks and they formed dangerous defiles; the valley of the Steenbeek was the Nineteenth Corps' frontage, and this valley was in a terrible condition, artillery fire having damaged the banks of the Steenbeek and the valley was a mass of water-filled shell holes; on the front of the Eighteenth Corps, much the same condition existed and the Steenbeek itself became a serious obstacle with only one good crossing, which formed a dangerous defile.

In order to get an adequate idea of the conditions faced by the Fifth Army and its 216 tanks, add to the picture of battle terrain, 24 days of intense artillery bombardment and a very heavy rain-storm which occurred on the day of the advance.

THE ADVANCE TO THE ATTACK

Zero hour, which was at 3:50 a. m., July 31, saw the tanks of the first wave moving forward while it was still dark, in and out of water-filled shell holes (out of them if they were lucky) behind the Infantry and its barrage. The enemy's front line was taken at once, along the whole seven-mile front, the British tanks and troops could hardly get through the mud fast enough to maintain contact with the retreating Germans. Many of the tanks became stuck on the first line and the enemy artillery and its low-flying planes took steady toll along the front of all three attacking corps.

Tanks assisted the Gordons and the Black Watch while they were attack-

The Type of Terrain that Bogged the Tanks in the Third Battle of Ypres
Wrecks of six tanks may be counted

ing Frezenberg redoubt, rendering great service to the Infantry which would have suffered many casualties had the tanks not come to their rescue; they broke down counterattacks at many points along the line, and many strongholds, concealed in various farms, were reduced with their assistance. At English Trees and Macdonald's Wood many machine guns were silenced by the tanks. The arrival of two tanks at the critical moment during the attack on St. Julien and Alberta saved many lives in the capture of these places. Strong wire obstacles and concrete dug-outs were found at Alberta. The two tanks which arrived at this stronghold, went through their own protective barrage, mashed down the wire obstacles and attacking from close range drove the Germans underground where they were later captured by the British Infantry.

By 3 p. m. the British held their entire second objective, but the Germans, who had been conserving the strength of their armies up to this time in accordance with their plan of holding their front lines lightly, except for the scheme of well-concealed strongholds, now delivered their coordinated counterattack. A driving rain storm came up during this phase of the battle. After a fierce struggle, during which the tanks were able to do great execution, the British were forced back until they held only their first objective along two-thirds of their line and slightly better advanced positions along the remaining third. They had taken 6,000 prisoners and a quantity of machine guns but had lost a number of tanks by bad going and shell fire.

This attack on the 31st is classed as

a failure, and although there were 51 recorded occasions upon which the tanks assisted the Infantry during the battle, an adverse opinion concerning the value of tanks was rendered by the commander of the Fifth Army. In spite of the fact that the terrain was in no way suitable for the use of the new weapon, this report was forwarded, and the authorities, in consequence, "suffered from one of the worst cold fits which the Tank Corps at home or abroad ever endured."

Among the lessons learned by the British during this battle were:

a. The unsuitability of the Mark IV tank for swamp warfare.

b. The danger of moving tanks through narrow defiles swept by artillery fire.

c. The necessity of immediate Infantry cooperation when a tank has forced an opening in the enemy's lines.

d. The continued moral effect of the tank upon the enemy as well as upon their own troops.

THE MISERABLE CONDITION FOR TANKS

After the disappointing events of the 31st, the mental and physical miseries of all arms were increased, if this could have been possible, by having to lay day after day, drenched by continuous rain which had started again the night of the 31st. For many days thereafter any attack on the part of the Fifth Army was out of the question.

The Tank Corps felt that they were being weighed in the balance; that Flanders mud was helping to pull down the scales on the debit side and they knew their future depended upon being able, in the next few operations, to retrieve their former reputation in a manner which would catch the eye of the authorities. Knowing they would have to assist in that locality again when the battle was resumed, they felt that those intolerable swamps would engulf them deeper than before and dreamed of dry, rolling, chalk terrain where the tank could travel upon the surface of the ground and of battles where the artillery had not given the enemy weeks of warning nor helped him to reduce the battle ground to an impassable morass.

THE LANGEMARCK-ST. JULIEN FRONT

It was not until August 16, when, the weather having been less wet than it had been for a day or two, that the next series of attacks were made along the Langemarck - St. Julien front. Twelve of the tanks which had remained in reserve on the 31st of July, were directed to cooperate. They began their forward movement toward the assault line on the night of the 13th, but, due to the roads being congested with other traffic, the tanks were not permitted to use them. The rest of the country was deep in mud and it was soon discovered that in spite of the gallant mud battle waged by the tank personnel, they could not hope to reach the assault position in time for the action.

The Infantry attacked without tank aid and took their objectives with the exception of a nest of pill-box strongholds northeast of St. Julien. These little fortresses had been skillfully placed so as to entrap any unwary advance inside their wire and just within easy range of their machine guns. They were well concealed; built of reinforced concrete about three feet thick, the ordinary field gun high explosive shells had no effect upon them.

Three of them were hidden in the ruins of farmsteads, all were more than average size, each being manned by garrisons of fifty or more men.

A Pill Box in Flanders
A type of defense that hastened the development of tanks.

TANK SUCCESS IS MARKED

It was necessary that they be taken. The corps commander was advised that their capture would cost the British between 600 and 1,000 casualties, but Colonel Baker-Carr, of the Tank Corps, undismayed by former events, guaranteed the capture at half the estimated cost to the Infantry, providing that no shelling took place and that a smoke barrage be furnished. At 4.45 a. m. on the 19th, the strongholds were isolated in clouds of dense smoke. Two tanks were directed against each pill-box, with orders to get behind the stronghold before opening fire, thus cutting off the garrison and striking at its most vulnerable point.

The enveloping maneuver was completed by 6 a. m. and the first pill-box, on Hilloc Farm fell, the most of its garrison having fled. Two tanks reached Mont du Hibou and fired 40 rounds into the back door of the stronghold. Sixty of its garrison fled, some were shot down and the rest surrendered to the British Infantry as soon as it came up. Triangle farm fell ten minutes later. This garrison having put up a fight with the tanks, were nearly all killed with the bayonet by the British Infantry. At Cockcroft farm stronghold, the first tank to arrive bellied within fifty yards of the enemy, but the garrison of over 100 withdrew upon the arrival of the tank, which, aided by the Infantry, accounted for more than half of them.

This completed the capture of all objectives and after waiting until the Infantry had consolidated the positions, the tanks returned. The cost to the Infantry was 15 wounded, and to the tanks, two men killed, two officers and ten men wounded, as against an estimated cost of 600 to 1,000 killed and wounded to take these centers of resistance without the aid of tanks.

This attack proved a sufficient answer to the adverse opinion forwarded in the Fifth Army report as the low casualty figures pleaded too loudly to be ignored. There is little doubt that to the tanks, which won this action at St. Julien, is due the credit for the opportunity the Tank Corps had later of winning the Battle of Cambrai.

ELEVEN MINOR ENGAGEMENTS

From the date of the brilliant little tank action near St. Julien on August 19 until October 9, by which time all hope of complete success at Ypres seems to have been given up by the

British, the tanks fought in eleven minor engagements and made almost as many more vain attempts to fight. Much time was spent in making elaborate movements through mud and water for battles which never took place and they struggled many nights to get up to some fight which had to take place without them.

None of these engagements on the fronts of any of the three corps were decisive; they were remarkable, however, as a demonstration of patience and tireless effort, day after day and night after night, on the part of the gallant Fifth Army.

Whenever the tanks did get into action, they usually gave good accounts of themselves and even under these circumstances, the tank still continued to so affect the morale of the enemy that in many cases parties of Germans surrendered at sight of an approaching tank. Many prisoners reported they could have held up the Infantry indefinitely but felt helpless against the tanks. In explaining his surrender one officer reported: "There were tanks—so my company surrendered—I also."

On August 22 a remarkable action was fought by a single tank which had become ditched near the strong point of Gallipoli. For 68 hours this tank fought the enemy, breaking up many counterattacks, until the ammunition was exhausted and the crew forced to withdraw to its own lines on the night of the 24th.

MINOR MISSIONS ON SEPTEMBER 20

The Fifth Army was relieved by the Second Army and on September 20 a fairly successful assault was made along the whole line. The tanks, however, were given only minor missions, due to the condition of the ground. On the old Eighteenth Corps' front the tanks had a little luck, but it required great efforts on the part of the crews to get their tanks over and through the trees which the enemy had felled across the road and which rested breast-high upon their branches and upon the stumps from which they had not been completely severed. If the leading tank was held up while struggling through this mass in the dark, all tanks were delayed, as impassable swamps on each side of the road made any detour impossible. In spite of these difficulties, however, the tanks arrived at their destination and are credited in reports with having inflicted many casualties.

On October 4, occurred the last two actions of the Third Battle of Ypres, in which tanks participated successfully. In one of these actions, 12 tanks assisted in the capture of Poelcappelle. After capturing the three strongholds which guarded the outskirts of this village, the tanks hunted the enemy through the streets and out beyond the village.

Since any survey of tank history would be incomplete without it, an account of the other action is given in more detail. "The other action of October 4, was to afford the background of one of the most courageous actions of the war and caused the Tank Corps the loss of one of its most gallant officers, Captain Robertson. This officer was in command of four tanks which were to take part in an attack upon Juniper Cottage on the line of the Rutelbeek River. Tanks and Infantry were to cross this river by the one remaining bridge and drive the enemy from the stronghold at the cottage.

Realizing that if the tanks lost their way in the dark and missed this bridge, the Infantry would suffer a great many casualties and the success of the action would be jeopardized, this officer and his servant, Private Allen, worked under fire for three days and nights taping the routes for the tanks. By the time he had finished, it was time for the tanks to start forward, so walking ahead of the leading tank he guided them through the dark, over the torn-up ground to the assembly point and at 6 a. m. he led them into action. Facing an intense machine gun and rifle fire, he led them across the bridge and toward a road which would lead them straight to the enemy position. As they reached this road, Captain Robertson fell, shot through the head; but the tanks were now in such a position that they could see the direction of the stronghold and went on and completed their mission."

The verdict of the commander-in-chief upon the tank accomplishments and failures under the conditions which prevailed during the Third Battle of Ypres, besides being kind and just, demonstrated the fact that notwithstanding the indifferent showing made by some of the tanks during the past three months, he wisely took into consideration the handicaps they were working under, and that his confidence in mechanical warfare was unshaken.

Sir Douglas Haig's official dispatch stated: "Although throughout the major part of the Ypres Battle, and especially in its latter stages, the condition of the ground made the use of tanks difficult or impossible, yet whenever circumstances were in any way favorable, and even when they were not, very gallant and valuable work has been accomplished by tank commanders and crews on a great number of occasions. Long before the conclusion of the Flanders offensive, these new instruments had proved their worth, and amply justify the labor, material and personnel diverted to their construction and development."

(To be continued)

The Army Wide Awake

Whispers of disarmament conferences that do not materialize are still heard on both sides of the Atlantic, but the Army of the United States, small though it be, conducts itself with an eye to possibilities. . . . The experimental work of the Army, based upon the supposition that war again may come, is helping to maintain its fighting personnel at a high pitch. This should be the purpose of an army, and its directing heads are to be congratulated upon being alert and anxious to have it at all times ready for whatever emergency may arise.—*Washington Post.*

Notes from the Chief of Infantry

New Weapons for Howitzer Companies

THE question is often asked, "When will regiments be supplied with the new 75-mm. mortar and the new 37-mm. gun?" This question can be answered only by the statement, "When money is available." Originally one of each was manufactured for experimental purposes. The tests were favorable and these two weapons were adopted as a standard for equipping Infantry.

Both the 37-mm. gun and the 75-mm. mortar demonstrated their superiority over the present armament. The present 37-mm. gun is a very effective weapon, but the 3-inch trench mortar has many features which are unsatisfactory. For this reason it is believed to be of more importance to devote the funds, at present available, to the manufacture of the 75-mm. mortar. Under the present economy program, quantity production of either of the two weapons is impossible.

At present there are three of each of these weapons either manufactured or under the course of manufacture. Orders have recently been given for the manufacture of four more 75-mm. mortars.

At an early date the 29th Infantry will be equipped with the authorized number of the new weapons for extended service tests. From the results of this test, training regulations will be compiled by the Infantry Board as regards technique and tactical employment.

The distribution of the four additional 75-mm. mortars, when manufactured, has not been definitely decided, but it is probable that an additional regiment will be equipped with this weapon.

Movement of Officers in Fiscal Year 1926

EVERY effort is being made by the Chief of Infantry to reduce the number of changes of station of Infantry officers. During the few years immediately following the World War, movements of Infantry officers were frequent, due to the readjustment of the Army to a peace basis.

Recognizing that such frequent changes of station were costly to both the Government and to the officers concerned, and that efficient supervision could not be expected by a constantly changing personnel, a continuing effort has been made to reduce the number of moves.

During the fiscal year 1926, 1,606 Infantry officers changed station as shown in the chart on the next page. This figure is less than the number for the fiscal year 1925, which was 1,643.

An attempt is being made further to reduce the shifting of officers, but the partial analysis of the chart which fol-

lows shows that of the 1,606 officers moved during the fiscal year 1926, 1,266 were for the purpose of the education of the officer or foreign service demands. For this reason a further decided reduction in changes of station is improbable under the present school and foreign service policy.

Table I. Moves to:

Company Officers' Class, Infantry School	205
Advanced Class, Infantry School	83
Command and General Staff School	94
Army War College	25
Foreign Service	329

Table II. Moves from:

Company Officers' Class, to duties other than Table I	105
Advanced Class to duties other than Table I	20
Command and General Staff School, to duties other than Table I	80
Army War College	28
Foreign service, to duties other than Table I	297
Total, all moves	1,266

It is true that many of these 1,266 officers moving to schools and foreign service had finished their details on some other duty and would have had to move anyway. For this reason it at first appears unjust to claim that these two classes of duty are responsible for 1,266 changes of station, but had not officers completing other duties been ordered to schools or foreign service, it would have increased the number of moves, since a like number from some other source would have been moved. By moving officers whose tours of duty are completed direct to schools or foreign service and by moving officers from schools to duties vacated by officers going to school or coming from foreign service, the Chief of Infantry reduces the number of changes of station.

MOVEMENT OF OFFICERS, FISCAL YEAR OF 1926.

FROM

TO	Co. Off. Class	Adv. Class	C. & G. S. School	War College	Foreign Serv.	R. O. T. C.	Org. Res.	Nat. Guard	Regts. in U. S.	Inf. Sch. Stf. & I. B.	C. & G. S. Staff	War Col. Staff	U. S. M. A.	Rctg. & U. S. D. B.	Gen. Staff, W. D.	Gen. Staff, Trps.	Det. other Branches	Miscellaneous	Totals
Co. Officers' Class	...	..	..	..	29	30	5	6	119	2	..	1	..	1	..	..	..	3	205
Advanced Class	...	..	..	..	9	6	11	8	37	5	..	..	4	..	..	..	..	3	83
Com. & Gen. Staff Sch.	1	42	..	..	6	3	4	5	17	4	1	..	3	2	..	..	2	3	94
Army War College	...	..	4	..	..	..	6	2	3	3	..	..	..	..	..	..	..	7	25
Foreign Service	44	2	5	..	3	27	3	17	207	5	..	..	1	3	..	1	2	9	329
R. O. T. C.	17	3	9	2	13	2	..	..	28	1	..	..	..	..	..	1	..	..	74
Organized Reserves	3	5	17	1	10	1	5	1	17	1	..	..	..	1	2	..	..	4	68
National Guard	2	..	4	2	19	1	..	4	11	..	1	..	..	1	..	3	..	..	48
Regiments in U. S.	67	10	24	13	235	12	12	9	25	7	2	..	2	5	2	1	7	34	467
Inf. Sch. Staff and Inf. Board	13	2	9	..	..	..	1	..	10	..	1	..	..	..	1	2	..	2	41
C. & G. S. School Staff	...	..	7	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	8
Army War Col. Staff	...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
U. S. M. A.	...	..	..	..	1	..	..	..	8	..	..	..	1	..	..	..	..	1	11
Rctg. & U. S. D. B.	2	..	1	1	3	1	1	..	8	1	..	..	..	1	1	1	..	..	21
General Staff, W. D.	...	..	..	2	1	..	..	..	1	..	..	..	..	1	..	..	..	2	7
General Staff, Troops	...	..	..	1	1	..	..	..	4	..	..	..	..	..	..	..	..	..	6
Detail other Branches	...	..	4	..	2	..	1	..	22	..	..	..	..	1	..	..	1	2	33
Miscellaneous	1	..	5	6	12	..	3	2	50	1	..	..	..	..	2	1	..	2	85
Totals	150	65	89	28	344	92	53	54	565	30	5	1	11	16	8	10	12	73	1606

NOTE: The apparent discrepancy between the number of officers moved to specific duties, and the number moved from those duties is due to the fact that leaves of absence and the requirement that officers on foreign service be replaced prior to relief therefrom, postponed movement in many cases into the fiscal year 1927.

Experiments With Explosives for Antitank Defense

A NUMBER of experiments were recently held at Camp Meade, Md., to determine the minimum amount of explosive required under various circumstances to disable a tank. Four obsolete tanks were used; two were of the heavy tank type, and two were light tanks.

From newspaper comment it appears that the purpose of these tests was misunderstood. Several articles indicated that the vulnerability of tanks to explosives was a factor not previously known, and that this discovery would tend to make the tank less effective in war. Any such conception of the purpose of these tests is erroneous.

It has always been known that sufficient explosive effectively placed would disable a tank. No attempt has been made in the past, nor will an attempt be made in the future to institute a race between armor and explosives in the development of the tank. If the tank is built to withstand 15 pounds of explosive, then 25 pounds will be used; if it is armored against .50-caliber bullets, then heavier weapons will be introduced to combat it. The tank is a mechanical weapon which must take its chance on the battlefield as does the Infantryman. Full details have not been received as to the extent of damage caused by the explosives, but it is known that the tests were made on stationary tanks with previously placed high explosive mines and high explosive shells of various calibers.

Taking into consideration the extended front of a deployed division with the consequent inpracticability of mining the whole field, the chances of the tank being disabled by mines is small. Similarly, considering the doubtful ability of artillery being able to register on a rapidly moving target of small dimensions, the chances of the tank being hit are equally small. Thus the safety factor for the moving tank is in reality greater than that of the unprotected doughboy.

Speed and maneuverability on the battlefield are basic elements in safety from fire weapons. Future developments in tanks will in all probability sacrifice armor to the two mentioned basic characteristics.

These experiments, when studied, are expected to give data as to the economical amount of explosive to be placed as mines for the defense against tanks.

Employment of Tank Machine Guns

THE Chief of Infantry does not favor the dismounting of machine guns from tanks for use in supplementing the fire of the organic machine guns of Infantry units. This decision is based on the following tactical considerations:

a. Because of the frequent nonemployment of the tanks in defense, delaying action, withdrawal, and retreat, and its occasional nonemployment in the offensive due to unfavorable terrain, the theory was advanced that its weapons are of too great a value

to be held in reserve in those situations where the employment of the tank is not contemplated. The adherents of this theory desired to dismount the machine guns and use them in support of the Infantry in much the same manner as the divisional machine guns were used during the World War.

b. The basic components of the tank are, an armored shell, motive power, fire power (armament) and a crew. With anyone of its components lacking the tank becomes useless as such. Only by employing the unit with all its components present can the tank be expected to fulfill its primary combat function of moving fire power to a favorable location under armor protection. If the machine guns (fire power) be dismounted, for employment with ground troops, it is reasonable to expect that a dangerous separation of the tanks and their machine guns will result, and that some of the machine guns may be lost, and the tank thereby put out of action. In either case an expensive and valuable weapon, the tank, is temporarily inactive.

During the period devoted to the study of this question certain interesting technical facts were developed. It was found that the present type of tank machine gun was not particularly suitable for use as a ground gun. It is air cooled, and in sustained fire soon becomes too hot for operation. The short barrel does not give the range and accuracy required for long range fire. The present tripod is too unstable for overhead fire. The gun is not designed for ready mounting and dismounting from the tank. In an attempt to eliminate these objectionable features the Ordnance Department designed two experimental barrels which have recently been tested by the Tank Board at Camp Meade. The results of these tests indicate that the experimental barrels have the same unsatisfactory characteristics for use as ground guns, as do the present barrels, although in a slightly less degree. The conclusion was reached that a machine gun capable of being placed in the mounting of the tank could not be developed with the characteristics satisfactory for its use as a ground gun, without sacrificing those necessary for its employment in tanks.

The serious tactical objections to the separation of machine guns from tanks having been further strengthened by the unfavorable characteristics of the tank machine gun when used as a ground gun, a decision to discontinue further consideration of this method of use of tank machine guns has been reached.

Equipment Under Consideration

EXTENDED use by troops and new developments are causing constant change in Infantry weapons and equipment. Recommended changes by troop commanders and research by the Ordnance Department suggest changes and improvements. Many of the changes recommended or found desirable often have opposing characteristics, and to harmonize them in

a final design, compromise is necessary.

One of the projects now under consideration is the rear sight for the machine gun. The Chief of Infantry recently, as a result of a study in his office and the recommendations of the Infantry Board, has submitted to the Chief of Ordnance the following comments for consideration in the design of a new rear sight for future manufacture:

a. The rear cover of the machine gun casing is not considered a desirable position for the rear sight, but this location is recommended rather than one farther forward. The sight should not be offset, but should be in the same vertical plane with the center of the bore.

b. It is essential that the range setting be quickly adjustable. The locking device on the old "meter" sight was more desirable than the device on the present sight.

c. It is of no particular importance that a complete turn of the lead screw for range adjustment raises or lowers the sight a given number of mils. This screw is used for accurate setting of the drift slide only, changes in sighting being effected by operating the elevating mechanism on the tripod. The present pitch is suitable.

d. A maximum range graduation of 2,500 yards is recommended. Graduations over 2,000 yards are for use only when auxiliary aiming points are used. It is not expected that ranges over 1,800 to 2,000 yards will ordinarily be fired.

e. A maximum windage allowance of ten mils on either side of the normal is desirable.

f. A battle sight should be provided, designed for a range between 500 and 700 yards.

g. The peep sight should be .08 inch in diameter.

h. Complete correction for drift should be provided for on the sight, if practicable. Drift should also be included in the range tables.

i. The range adjusting plate should be redesigned so that the index lugs do not cover the figures on the sight leaf.

j. If a suitable telescopic sight is furnished, the leaf sight becomes less important.

k. For machine gun use, the rear sight need not be elaborate, but should avoid features which become easily damaged. The present type lead screw frequently jams and can not be turned by the small thumb piece. This screw might be eliminated, but it is convenient as a micrometer adjustment for accurate sight setting.

HAND GRENADES

The body of the defensive hand grenade, Mark II, is serrated, for the purpose of causing it to break in fragments of effective size upon explosion. TNT is the present explosive used as filler. Some doubt has existed as to whether the grenade body broke along the serrations, and preliminary tests were held in 1925, which indicated that, with the prescribed amount of filler, the body was practically pulverized, thus limiting materially the effective danger radius from flying fragments. The fragments made by the full charge of explosive did not have sufficient weight for the desired penetration. It was found that by reducing the filler charge the fragments became larger but the energy with which the frag-

ments were thrown was also insufficient to obtain the desired penetration.

The Infantry Board has recently held tests to determine the characteristics of the present type of grenade bodies filled with TNT as compared with those filled with EC powder. These tests indicated that the grenades loaded with EC powder, produced larger fragments than did the present type of grenades, that the explosion while of less intensity was not less demoralizing than that of the high explosive grenade, due to the greater noise of flying fragments, caused by the better fragmentation, and that although the tests to determine penetration were not conclusive, these tests combined with those held recently by the Ordnance Department indicated that the penetration of the grenade with the EC filler was superior to that of the grenade with TNT filler.

The methods employed in making the test are interesting. Five different tests were conducted for the purposes indicated below:

a. To determine the fragmentation of each of the two types, five grenades of each type were exploded in an all steel compartment, and the fragments were recovered, photographed, and compared as to size.

b. To determine the concussion of both types of grenades, they were exploded in steel compartments, in the open, in tall grass, on armor plate and on wooden stakes.

c. To determine the penetration of wooden screens by fragments at different ranges, two screens, 6′ x 6′ x ½″ and one screen 6′ x 6′ x 1″ were used. Grenades of both types were placed 5, 10 and 15 yards distant from the screens and exploded. A relative comparison then was made of the penetrations resulting from the hits obtained on the screens at the different ranges.

d. To determine the relative visibility of each type of grenade, five grenades were exploded in short grass and in the open.

e. To determine the range of the two types, ten grenades of each type were exploded on the edge of a lake; five were placed on wooden stakes, and five on armor plate. The lake was marked off by a series of stakes and markers placed at intervals of five yards. The splashes in the lake were observed from a tower and the distance noted.

MACHINE GUN BOLT

In spite of the most painstaking head-space adjustment on the caliber .30 machine gun, there is generally, at the outset of firing, a play of two or three thousandths of an inch. This almost unappreciable initial play, increases as firing continues. The effect of head-space, when firing, is to drive the cartridge back against the bolt with great force. The pressure exerted by this back kick varies directly with the amount of head-space.

After considerable firing, it has been found that this slapping force on the head of the bolt has resulted in the setting back of the metal about the firing pin. The effect of the cup thus formed has been to drive the metal inward so that in aggravated cases the firing pin is practically frozen in the bolt.

Because of the inability to secure perfect head-space adjustment, the Ordnance Department has designed a bushing made of heat-treated hard steel to be placed in the end of the bolt around the firing pin.

Experiments conducted with aircraft machine guns have proved that this expedient is beneficial. Twenty-eight of the specially designed bolts have been forwarded to the Infantry School to be tested by use in the routine firing, to determine their suitability for general use in Infantry machine guns.

Official Record Firing in Regiments

The following reports on this season's record practice have been received in the office of Chief of Infantry and are in addition to those previously published in the INFANTRY JOURNAL:

RIFLE MARKSMANSHIP

Inf. Regt.	No. of men on rolls of the Regt.	No. of men who completed the course	Percentage who completed the course based on the No. on the rolls	Number of men who qualified				Average score per man	Percentage qualified based on the No. who completed the course
				Exp.	SS.	MM.	Tot.		
1st	507	389	76.7	29	79	244	389	271.94	90.49
6th	647	591	91.19	57	128	363	548	275.22	91.65
10th	710	528	74.37	28	121	330	479	272.80	90.72
29th	1530	1380	89	67	253	889	1221	269.72	88.49

AUTOMATIC RIFLE MARKSMANSHIP

14th	216	215	99.5	..	...	...	210	311.21	93.67
29th	1055	203	19.24	10	15	66	112	182.52	44.82

MACHINE GUN MARKSMANSHIP

				Exp.	1st Cl.	2d Cl.	Tot.		
1st	149	112	75.17	7	25	8	112	311.19	100.
6th	229	181	96.7	1	21	153	175	282.4	96.7
10th	177	152	85.76	1	15	129	145	288.53	95.39
13th	149	138	92.49	0	10	113	123	272.03	92.49
29th	274	226	82.5	2	15	201	218	275.79	96.46

37-MM. GUN AND 3-INCH TRENCH MORTAR

1st	12	12	100.	9	1	2	12		100.
6th	16	16	100.	4	1	11	16	85.8	100.
10th	15	14	93.3	4	6	3	13		92.86
13th	11	11	100.	5	2	4	11		100.
20th	14	14	100.	6	6	2	14		100.

Bleeding the Army Not True Saving

To bleed the rest of the Army in order to build up the air force would not be a true saving. It would be false economy. It might sound well in one of those statements about government saving that come periodically from Washington, but it wouldn't look right if the nation suddenly found itself in trouble.—*Milwaukee Journal.*

Editorial Comment

The New Chief of Staff

WE take pleasure in reproducing as the frontispiece in this issue of the INFANTRY JOURNAL, the photograph of the incoming chief of staff of the United States Army, Major General Charles P. Summerall. The Infantry service congratulates General Summerall on his appointment and joins in welcoming him to his important post. The General's eminent fitness for the position is universally recognized, for with his broad understanding of the problems of the Army and of our system of national defense the country can be assured of as capable leadership in development of the peace-time Army of the United States as it had in him a successful leader of brigade, division and corps in combat.

The Development of Infantry Weapons

IT is quite evident to those who have been keeping in touch with the development of weapons and equipment for the Infantry soldier that in the next national emergency the supply departments will be called upon for quantity production of improved and new types, and much of the material now in the hands of troops or in storage will be declared obsolete for use of the soldier in the field. Greater accuracy and more satisfactory ballistic qualities of ammunition, simplicity of designs, rapidity of fire, greater mobility—all these and many other conditions have been the objectives of experimentation and many of the problems have been solved. The work of preparation to give the American doughboy in combat the greatest advantages of mechanical superiority still goes on. Some major problems are still to be solved—self-loading shoulder weapons, caliber of the rifle, ammunition supply, the Infantry pack, etc.—and the columns of the INFANTRY JOURNAL are open to their discussion.

The situation regarding equipment differs somewhat from that existing for a few years prior to the World War. There was a lull in development of small arms and its ammunition, due in a measure to the fact that we had a shoulder rifle that was considered superior to any foreign military arm of that type, a good automatic pistol, a few machine guns that were not taken as seriously as later events showed they should have been, and types of small arms ammunition that enable us to win practically all international matches. As the Army was fairly well satisfied with the arms it had for the individual soldier, most of the experimental and investigative work was done on larger caliber weapons.

With the Springfield rifles there are now more careful processes in its manufacture, insuring better bolt and trigger action and cartridge case ex-

traction. The rear sight has been subjected to exhaustive tests and as a result the peep aperture enlarged. Probably the greatest improvement is in its accuracy, due more to improved ammunition than to improvements in the rifle itself. The ammunition for special matches and for test is continually improving, and when the replacement of our present stock of rifle ammunition begins we will go to an entirely new type.

It will be recalled that we entered the war with the standard caliber .30, model of 1906 ammunition, 150-grain bullet, which was found extremely accurate at ranges beyond 1,500 yards and unsatisfactory for machine gun barrage fire. A great number of different types of ammunition have been made and tested since the war and their ballistics determined by actual firing. It was found that the ammunition giving the greatest range was the boat-tail bullet, weighing 175 grains, of gilding metal, with muzzle velocity of about 2,600 feet per second. It gives a slightly greater recoil than the present service cartridge, but tests have shown that this greater recoil is not so excessive as to render it impracticable for use in the rifle. The maximum range obtained with this bullet is 5,600 yards, as compared with 3,300 yards with the 150-grain bullet. Summed up, it has the following advantages over the 150-grain service bullet: a much greater range and a flatter trajectory at all ranges, less drift and less horizontal deviation due to wind, and a greater striking energy at all ranges.

The Browning machine gun, model of 1917, will likely remain our standard machine gun for some time. The behavior of this gun during the war brought out some defects which will likely be overcome. A new tripod is being designed, lighter in weight, with less vibration, and with a more satisfactory elevating and traversing mechanism. The Browning automatic rifle has serious objection and it may be replaced by a lighter and more practicable self-loading shoulder weapon, and toward this end many experts are devoting their attention.

The Stokes mortar will undoubtedly be discarded and the newly designed rifled mortar of 75-mm. caliber, mounted on wheels, with a maximum range of between 2,000 and 2,500 yards will take its place. Likewise, an improved type of 37-mm. gun, with greater range and armor penetration will succeed the type of one-pounder now in service.

With the tank, we may soon expect that a satisfactory light, high-speed machine will be developed. Our present stock, left-overs from the war, have many defects that will make them practically useless in another clash of arms.

Other improvements in less important weapons and in equipment have been made. The specifications are ready for use when necessary, but in the interests of economy little beyond experimental types are on hand or may be expected for issue to organizations until the supplies of old types are exhausted. The replacements of older types by newer models in our service in peace time because of expenditure involved seems to be more of a political than a military problem. Experiments, too, cost money, and several projects for Infantry that re-

quire attention have been postponed for lack of funds, notably the thorough field test for practicability of motor transport for regiments.

①

The Spirit of the Army

WHEN Honorable Hanford MacNider, the Assistant Secretary of War, returned recently from a five-thousand-mile inspection trip to the Southwest, he completed an itinerary that has taken him, during the past year, to most of the posts of the Regular Army. From his intimate contacts with personnel of the three components of the Army of the United States and of the veterans of the World War, he is in a position to give an estimate of the national defense system that is of value. He knows what is being done in the way of national preparedness, and his opinions are of great value because he calls a spade a spade.

He states that there is a very apparent increase of interest in all matters of national defense and that "the close and cordial relationships built up between the Army's personnel and the civilian population as exemplified on every hand in the field is a welcome story to those who sit on the receiving end of all the professional 'Disband the Army' propagandists."

The relations between Regular Army units and civilian committees were found to be most cordial. Unsolicited praise of commanders and troops came from every State visited, and public committees waited upon him in every city and town visited to express gratitude for the Army's helpfulness in community developments.

"Representatives of the National Guard and Organized Reserves were unanimous in expressing to me their high praise of the present War Department activities in their behalf," said Colonel MacNider. "They commended highly the service of the officers and men of the regular establishment detailed for duty with these two components, or close enough to be of material assistance. I noted that at every place where Regular officers or enlisted men were on duty as instructors with the Guard, Reserves or in the schools, there were always delegations on hand to request a continuance beyond the regular assignment periods of these particular men. From this I drew the natural conclusion that our forces in the field are not only proving good soldiers but good citizens and assets to the communities in which they are stationed."

The most frequent question put to the Assistant Secretary by civilians on this trip was, "How can we best help to secure *better conditions for*, and *an increase in*, the same kind of personnel for this particular community?" From the Regular service itself only regret was expressed at the limited facilities for further extension of their service to the two other great elements of our land defense, the National Guard and the Organized Reserves.

Another observation reported was: "Despite the almost unbelievably bad housing conditions in many of the posts visited, the morale of the Army personnel was splendid. *The Army's faith still appears to be in those whom they are striving to serve* and it is sure there are better days ahead for the men who are still carrying on in uniform."

Summed up, the situation in the Army is this: Under unsatisfactory conditions of living and with an inadequate personnel the Army is carrying

on its manifold missions in commendable manner. Furthermore, the people of the nation are realizing the sincerity of purpose of those who comprise its first line of national defense. They are gradually learning of the depressive effect that inadequate provision has been having on the armed forces in whom they place great reliance. They have learned in the past month that the 125,000 Regular Army authorized by Congress, cut supposedly to 118,750 by reduced appropriations, will be further trimmed to about 110,000 during the remainder of the fiscal year because there is no money to pay or feed them.

If "adequate national defense" is to be anything but an empty phrase it certainly means that sufficient permanent personnel, living and working under favorable conditions, should actually be carrying out the provisions of the National Defense Act that are prescribed for it. The Regular Army *has not* the necessary personnel and many conditions of service *are* unfavorable. That it carries on with the enthusiasm noted by Colonel MacNider is a great credit to it. It will do its best no matter to what strength reduced: that is the spirit of the Army.

A New Song Contest Announced

DURING the past two years the Infantry Association, through its Journal, has made an effort to arouse interest in an Infantry Song. Several contests have been conducted by us, and while none of these have been successful in producing the song that the American Infantryman should have, yet they have been a stimulant to thought along this channel. We are now enabled to continue our efforts by the introduction of a new contest for suitable music, through a donation for the purpose by an anonymous enthusiast for the Queen of Battles.

We expect to interest in this contest the most capable song writers of the country. The Infantry deserves that the best talent of the land should come forward and contribute it interpretations of the spirit of the Infantry. The determination and the inspiring attributes of the millions of Infantry who fought on the fields of France are still alive in our memories. The song writer can draw his inspiration from the glowing deeds of the American Doughboy in the World War, for he should recall vividly the devotion to country, the vigor, enthusiasm and high spirit with which the Infantry carried on in the late war, as it has done for the 150 years of American history. The Doughboy of today and tomorrow wants to express, in song, the traditional esprit of the Infantry. No anthem or hymn is wanted, but something with vim and life that the Infantryman, whether in peace time or in war, can sing or shout and that will thrill him to the marrow. This is a big order, but it is not an impossible one. We hope the present contest will produce the desired result.

Any reader knowing of musician-composers who might be interested will help along by sending in the names to the INFANTRY JOURNAL.

Proof of the Pudding

WE have always contended that the nation must place its chief reliance in future armed conflicts upon its foot-soldiers to give the victory. No new developments or sensible theories have been produced to

shake the principles that are basic in all armies today: Infantry, with cooperation of all arms, bears the brunt of the battle. The development of Infantry, then, should be paramount. Another test has been held to determine the relative importance of the various arms, and it is only necessary to quote from an Associated Press dispatch of September 18 of the results:

Predictions that the next war will be almost entirely in the air were not borne out by the recent British army maneuvers in Hampshire.

The effectiveness of Infantry above all other arms was proven to the satisfaction of most military experts.

Rain and fogs upset the plans of the air force in the recent maneuvers, as they often do in real warfare, and the Infantry had to carry on while the fliers waited for conditions which would enable them to destroy the enemy.

Many problems arose which showed the necessity for more effective means of using Infantry.

ⓘ

Fund For a Rifle Team

THE National Rifle Association is arranging to send a rifle team to Rome, Italy, next spring to compete as America's representative in the International matches. It will be recalled that in the world championship rifle match on August 14, 1925, held in Switzerland, America was defeated by the Swiss entry, which took the trophy that had been in possession of America since our initial entry in the contests in 1921. America was defeated at a game it claims as its own, and a blow it was to our prestige in marksmanship! That honor must be retrieved and the initial steps have already been taken by the N. R. A.

In order to assemble, train and send the team, it is estimated that $15,000 will be required. This fund must be raised by voluntary contributions, and the INFANTRY JOURNAL has consented to aid in this important work. Our readers who are interested in assisting in regaining the title of world's champions with the rifle should send their donations direct to the INFANTRY JOURNAL, and they will be applied to the International Rifle Team Fund.

ⓘ

Thrift as an Asset to Morale

ONE of the most hopeful signs in American industrial life of the past decade has been the extent to which many of the most progressive firms of the country have expended money and brains to teach their employees thrift and systematic saving. They do all in their power to secure more contented and therefore more efficient employees and to lessen labor turnover. Financial security insures the contentment. Participation in the profits of the business insures the efficiency of the workers; it makes them better citizens and provides an anchor to hold them to their work. Some of these firms are now largely owned by their own employees. Business reached its objective.

The Army's problem of securing greater contentment among its enlisted personnel parallels that of business administrators in building satisfaction among their employees. With greater contentment comes less turnover, one of the thorns in the sides of organization commanders and the recruiting service. There exist many contributory causes to the varying degrees of discontent that are found among the

Army's ranks, and for one of these there is a remedy that lies within the province of the commanders.

"Jawbone" is one of the really harmful influences in the Army today. Normally, "jawbone" is credit. Credit, properly used, is an asset and a convenience, and soldiers deserve credit as well as anyone else but they are no more exempt from the penalties of abused credit than others. Rather less so.

There have been and probably still are organizations where at least a few men habitually draw only a few dollars at the pay table after all collections are taken out. No matter how just the charges may be, there is bound to be a sad slump in "pay-day morale" when each succeeding pay-day brings only a few coins to match the month of service.

Several organizations prohibit excessive collections from the soldier's pay, setting a definite limit, and these have made a real bid for a lessened desertion rate. But even these are more or less negative measures. Why not make a positive effort? The best defense is an offensive. Why not take the time and trouble to make it not only easy but popular to save a little each month with a definite object in view? Of course, it will take some work but nothing worth while just falls in the lap. It was done in one company recently where fifty-two men saved over twenty-one hundred dollars in twelve months. It was more than worth while.

If the men are put on more of a cash basis, with less of the easy "jawbone" method of reducing the sum they draw at the pay table, their pay will mean more to them. They can then be induced to make small monthly deposits; they will unconsciously develop thrift; they will be far more satisfactory soldiers.

Keeping Physically Fit

THE War Department requires that its officers shall keep in good physical condition, not alone because they should be fit to respond to any call for the arduous requirements of active field service but also in order that they may render efficient service in their peace-time duties unhampered by physical ailments. The system of annual physical examinations is utilized, as it properly should be, to discover any deficiencies that may be unknown to the officer and to give him advice as to the action necessary and medical services to remedy them. The officers of the Medical Corps are instructed that the examinations shall be conducted with a view to assisting the officer rather than to filling him with fears that he has one foot in the grave or that he has fine prospects of being an appropriate subject for a retiring board.

The records show that the larger percentage of minor physical defects exists among officers who are habitually on sedentary occupations, as compared to those who are on actual duty with troops. This fact has long been recognized and resulted in the requirement that all officers not on duty with troops should take at least two hours' continuous exercise once a week, and instructions provide that one afternoon a week shall be set aside for this purpose.

Various forms of exercise are authorized and the list includes practically

every active sport. That an officer should plod slavishly through the two hours' exercise just to comply with the regulations was never intended. Relaxation and muscular activity is sought, and this idea is brought out forcibly in an article, "Exercise versus Imagination," in this issue of the INFANTRY JOURNAL. While we will most likely disagree with many ideas of the author, yet it cannot be denied that the proper mental attitude toward the exercise is most essential for beneficial results.

We deem it most appropriate at this time to include an article on the great ravisher of physical efficiency, the common cold. The author, Maj. A. P. Clark, Medical Corps, now on duty with the War Department General Staff, while an instructor at the Army War College made an extensive study of the subject as a side issue with a view to prevention of colds in the college body. The success of this led to the request that he give the Infantry and the Army the benefit of his research, and we hope this plain and common-sense discussion will prove to be of value to our readers in maintaining themselves at physical par during this and succeeding winters.

Pickups in the Month's News

THE white uniform will not be changed.

THE Army-Navy football game in Chicago on November 27 will be a gala event.

PLEBES at West Point will no longer be eligible for inter-collegiate athletics.

MAJ. GEN. John Brooke, retired, last of the generals of the Civil War, recently passed away.

BRIG. GEN. Merch B. Stewart, superintendent, has abolished the guard in barracks at the U. S. M. A.

MAJ. GEN. Harry A. Smith, president of the Infantry Association, and Brig. Gen. Herbert O. Williams recently were appointed to the grades now held.

THE War Department will request permission from the next Congress to sell more useless reservations in order to build up the fund for the Army's housing program.

THE experimental 37-mm. automatic antiaircraft gun and the antiaircraft machine gun battery of four guns with single control were of special interest at the Ordnance demonstration at Aberdeen on October 8.

THE AMERICAN LEGION convention passed resolutions urging more adequate national preparedness.

RECRUITING of the Regular Army was resumed recently in order to bring the strength up to 110,900.

THE NUMBER of complaints by Army officers on their standing on the single list numbers about 2,500. The War Department's board is now considering the matter with a view to submitting recommendations to Congress on the situation.

Reviews and Discussion

Will the Airplane Supplant the Cavalry?

AN article in the last issue of the *Cavalry Journal* by Col. H. S. Hawkins on the importance of modern cavalry and its rôle as affected by developments in airplane and tank warfare, meets the arguments of the mechanical warfare protagonists who profess to foresee the passing of cavalry as an element of combat. Mechanical methods of doing things are popular, and they provide an appeal to the imagination, and hence the flights of fancy that would have armies consist almost entirely of machines. The author predicts that the fighting man, not the fighting machine, will always continue to be the principal means of making war, and in that opinion the readers of the INFANTRY JOURNAL will agree.

The article mentions the common fallacy existing concerning cavalry action, that is, that modern cavalry charges in close rank, riding knee to knee, sabers and lances flashing, in successive ranks in solid array. This sort of formation has long since been cast aside, and mounted advances of the future will consist of thin lines in successive waves, supported by machine guns and artillery, and cooperating Infantry with all their means of fire. The hostile fire is held down while the "swift moving lines of horsemen close rapidly with the enemy from a direction at a considerable angle from the line of fire of supporting troops."

Cavalry's principal rôle in battle is to participate with the other arms; to be used as a mobile reserve at a sensitive point of the enemy when the right moment arrives. The minor uses of cavalry are: reconnoitering, screening, as covering forces, filling large gaps in the line, seizing and holding points until Infantry can occupy them, delaying and harassing action, raiding and pursuing. In none of these can the air corps replace cavalry. On distant reconnaissance missions the airplane has partly superseded the mounted man, thereby "relieving cavalry of that duty which has always been so exhausting, and saving it for its more important work in battle."

The writer states that it is obvious that a horseman galloping at 18 to 20 miles and hour will be exposed to a lesser number of bullets when passing over an exposed area than a dismounted skirmisher moving at one mile an hour. He also states that the immunity of mounted skirmishers from great losses in the face of modern fire has astounded those who believed that a horseman could not live under those conditions, and further, that this statement is backed by a mass of evidence collected during the World War.

The writer believes that tanks can cooperate with Cavalry the same as with Infantry in open warfare situations. "But tanks do not replace cavalry. They assist."

The article as a whole gives a sound analysis of the modern use for cavalry. It is believed, however, that the author might have strengthened his argument by including some of the limitations of cavalry in action rather than assuming all conditions as ideal. For instance, we can picture many fire-swept zones over which a cavalryman could not dash at 18 to 20 miles an hour.

Infantrymen will agree that cooperation with the Infantry is the key-note of successful action of all branches of the service. They will also be unanimous in approval of the statement that the Infantry platoon commander, representing a class, was "the real hero of the war on the Western Front." That the following estimate made in the article is justified goes without saying:

> The air man went out alone or possibly with several others to make a dash, with no responsibility for the lives of others nor for their success in accomplishing perilous and important tasks, and then returned to a luxurious bath, a good meal on a white table cloth and a clean, warm bed. But the Infantry platoon commander held the lives of forty or fifty men in his hand. He was responsible for their instruction, their discipline, their physical welfare, their spirit and courage and cheerfulness under incessant strain, in the presence of death and mutilation, for every moment of many hours, days and weeks at a time. He was their leader in long exhausting marches, in every enterprise, and finally in battle where all eyes were upon him and where his leadership meant life or death, success or failure. Truly, no young man could have had more intoxicating moments, more thrills or more satisfaction in the leadership of men.
>
> We refer, of course, to the competent platoon commander. Without him no battles could be won, no enterprise successful. He was, and will ever be, the real soldier. His sacrifices were greater than those made by any other class. He was the greatest hero in the Army. His exploits were unheralded and no publicity was given to his name, nor was he ever known as an "ace." There is no position in the Army that demands so much of a young officer as that of a lieutenant of the line who has the supreme experience of commanding a platoon of soldiers in training and in battle.

Infantry's Artillery in Modern Armies

DISCUSSIONS of the accompanying weapons of Infantry appear at intervals in foreign military journals, the latest now appearing serially in the *Bulletin Belge des Science Militaires*, written by Major Paquot. One of the best studies of the subject is contained in a book by Commandant Biswang, French Army, of which a complete review was given in the June, 1925, INFANTRY JOURNAL.

A great deal of experimenting is going on in various armies and new models will eventually appear, embodying antitank and antiaircraft features which most will agree should be prime considerations for an Infantry gun. The organization and the weapons that are in actual use today are briefly described:

France. The accompanying weapons and their organization are the same as in the American Army.

Great Britain. The 3.7-inch howitzer has supplanted the Stoke's mortar. This gun requires one mule to draw the howitzer proper on wheels, two pack mules for the trail and acces-

series, and five mules for the forty rounds of ammunition. Each division contains a brigade of three batteries, permitting attachment of one battery to each Infantry brigade.[1] Each battery is divided in two sections of two howitzers each, and the section is capable of independent action.

Germany. Each Infantry regiment has an Infantry battery and a company of minenwerfers. The Infantry battery consists of six cannons, model 1896-1916, of 7.7-cm. caliber. This gun is being used instead of the newly designed 7.7-cm. gun because of prohibitions in the Treaty of Versailles. The minenwerfer company is armed with nine light (cal. 7.6 cm.) and three medium (cal. 17 cm.) minenwerfers. These are mounted on wheeled carriages.

Belgium. The Infantry division has one Infantry battery of twelve 7.6-cm. cannons, which are similar to the German light minenwerfers.

Italy. Each battalion of Infantry has a platoon of four 37-mm. Austrian Skoda cannon.

Roumania. The Infantry regiment has a section of two 58-mm., model 1888, cannon. Each battalion has two weapons, either the 37-mm. gun, the trench mortar or the grenade thrower.

Russia. The regiment has a battery of six field cannon, and the battalion has a section of two 3.7-cm. pieces. These weapons are moved on wheeled carriages.

National Defense First—Then Pretty Pansy Beds

THE *American Rifleman* in a recent editorial discusses the relative merits of elimination of funds for the National Rifle Matches and the purchase of the plaza site for beautification of the Capitol grounds in Washington. The editor begins by repeating what may be termed a platitude, "There is nothing new in a governmental policy of economy in matters vital to the national defense." He proceeds by recalling an event of the War of 1812:

This country had such a policy in the years preceding the War of 1812. It starved the corporal's guard which was dignified with the name of "regular army" to death and made no provision for the training of the populace, called by courtesy "militia," either in the elements of defensive fighting or in marksmanship. To do so would cost some money needed for planting pansy beds along the Potomac. So the Congressmen of that day used the money to plant the pansies and to build fancy hitching posts in the front yard of the Capitol.

Came the War of 1812. A handful of British troops landed below Washington, started five times their number of the untrained mob of alleged "militia" that met them toward the Canadian border with a few well directed kicks in the pants, trampled the pansy beds, used the pretty hitching posts for kindling and burned the Capitol, causing the loss of priceless records.

If the Congress of that period could not afford to beautify its capital and at the same time provide for adequate defense, it would have at least saved its records had it kept them in a fireproof stone shed and used what little money it had training the people so that they could effectively protect them. It would have cost less to do this, in the long run, than it did to

[1] Corresponds approximately to a U. S. regiment in strength.

rebuild the capitol, burned because there was no one to defend it. And the nation's record would, to this day, be intact.

The present Congress apparently either has forgotten the lesson of 1812 or never heard about it. It declined to appropriate a beggarly half-million for the National Rifle Matches at Camp Perry, but it has passed a bill providing $1,300,000 for the construction of a Plaza by way of beautifying the National Capitol.

To promote beauty in the national seat of government is commendable. But to provide for the defense that guarantees the perpetuity of that g ernment is vital. If both can not be done, certainly defense should be provided for first. The backbone of any defensive scheme is a vast number of deadly rifles. The National Matches were developing such a backbone among the civilian population by interesting the nonmilitary individual in shooting as a national sport.

A million riflemen who can stay in the "4" ring at 1,000 yards can hold off the combined armies of the world. The National Matches in the last few years have been responsible for the development of about half that number. In a few more years these matches would have aroused popular interest to such a pitch that the nation would always have, in event of emergency, one million crack shots to defend its frontiers. But Congress decided it could not afford to spend $500,000 for any such purpose. It can, and does, appropriate $1,300,000 for a Plaza.

When, in the next generation, an invading army is stabling its horses in the Library of Congress, using the Capitol as a barracks, parking tanks in the flower beds and knocking the noses off the near-marble fountain nymphs in the Plaza, an outraged nation will damn the memory of the men who had no better sense than to create beauty without providing the means of protecting it.

The moral is that the man who plants fancy cabbages in his garden should have a fence strong enough to keep out the cows.

When cows can be trusted in cabbage patches, nations can safely scrap their means of defense.

For a Record of Training

By *First Lieutenant* WAINE ARCHER, *Infantry*

SOME unintentionally humorous writer in the INFANTRY JOURNAL about two years ago, took to task the average Army officer for his alleged failure to consume a proper literary diet, causing one of his characters to state in effect that the Army officer enjoyed more leisure than any other professional class.

The "chart age" was then upon the Army with all its severity, and the statement elicited anger, wonder, indignation or ironic laughter according to the temperaments of its various readers. In those days the company officer possessed of a modicum of conscience was (at least in some sections) averaging between 35 and 40 hours a month keeping the required training charts for those under his command. In that respect things have taken a decided turn for the better. The tendency is to heave a sigh and let it go at that. But that is not quite all there is to it. There was a reason for the chart. Oppressive and burdensome as it was, it was, at worst, a somewhat dismal effort toward a perfectly

proper goal. The goal was not reached by the original charts, however, nor has it been reached by the modified charts of the present day, which are worth very little.

It is important and of value to the Army that a record of the training of each enlisted man exist. To meet this need it would seem that there not only could, but should, be worked out a "training record," equal in importance and care of preparation to the present service record. Indeed, this record could and should properly supplant certain portions of the present service record, such as prior service, military record, specialist qualifications, etc.

It could be transferred with the soldier like the present service record, but unlike the present service record, would not, at the end of an enlistment be sent to the Adjutant General for permanent file. Instead it would, immediately upon reenlistment of the soldier, be sent to his new organization commander and would there furnish information to that commander until his newly started training record should be as complete as the one for the former enlistment. Then the old record could be either destroyed or returned to the Adjutant General for permanent file.

The first page of this training record should contain the prior service of the soldier, with some information additional to that now shown under prior service in the service record. Following this would be pages dealing with the basic qualifications applying to all branches of the Army, such as military courtesy, care and use of individual equipment, school of the soldier without arms, etc. Each of these subjects would be subdivided in much the same manner

COMPETITION is a basic element of life, and there is no possibility of eradicating rivalry in present day human nature. In at least one respect competition is like alcohol; not the use but the abuse is harmful. During training it approaches the harmful stage when the competitive feature predominates, and is harmful when winning becomes the all important phase. Competition as an incentive means is a wonderful help, but should ever remain a means, not an end.

Instructional methods which include examinations whose basic idea is a mark or rating instead of instruction are seriously faulty. Games or measures wherein competition undermines or threatens sportsmanship are in the same class. The real test of any examination or inspection is its instructional value, and the real value of any game is in the true sportsmanship which it fosters. It might be well to take occasional stock of these matters within our realm. Competition rampant means selfishness creeping in, and this ever present trait of human nature needs little encouragement. Team play and loyalty, without which an army might better disband, are entirely inconsistent with selfish climbing, which is merely another name for unwholesome competition.—Major Owen R. Meredith, C. W. S.

that the subject of rifle marksmanship is now subdivided in the blank form on paragraph 54, Training Regulations 150-5, and the method of marking could be the same.

Following the sheets for these basic subjects would come stubs of sheets to which could be attached single sheets containing blanks for keeping a record of the soldier's proficiency and progress in the various subjects pertaining to his particular arm, and, for specialists, his particular specialty, each subdivided as indicated above.

As a preliminary to putting such a system into effect it would be necessary to convene a board of officers, preferably field officers representing all branches of the service, for the purpose of deciding just what subjects are essential to the enlisted men of each of the branches, and just what the basic subdivisions of those subjects should be. This and the issuance of the necessary regulations and blank forms would appear to be the only preliminary steps necessary.

And the benefits from it would certainly seem to be worth while.

At present when an officer takes command of or joins a new unit, he is virtually under the necessity of marking time for a considerable period until he becomes acquainted with the qualifications and possibilities of his men.

Of course, a certain period of such hesitation is salutary and necessary to the officer who feels his responsibilities properly, but the period could be much reduced by the training record. That record would at least give him the judgment of another officer upon his men, tend to furnish him with a list of the members of his command most probably next in line for promotion to noncommissioned grade, and, generally, would tend to furnish an orientation which is not furnished now. The same thing, of course, is true about receiving a new man by transfer or assignment. Within a few days after his arrival, along would come his training record showing in just what subjects the new man is proficient, etc.

All of this, of course, would throw an additional burden of paperwork upon the organization commander. However, it is doubtful if this disadvantage, if the system should be properly introduced, would come anywhere near overbalancing the many benefits. Ratings could be made monthly, or at the finish of the various tests which are now prescribed practically everywhere. They would do away entirely with the necessity for charts, which are still a thorn in the flesh of the company officers of some units, and they would furnish a permanent and valuable record which does not exist in the Army.

Ⓘ

Regular Army Infantry Activities

Training Program for 1927

THE conduct of training for the Army for 1927 has been prescribed by the War Department in a recent general order, number 21. The Regular Infantry welcomes certain specifications in this program in which the prescriptions are very practical, especially because of the present handicaps of lack of troops for training. While the regiments on foreign service are better fixed for personnel than those in the continental limits, yet they, too, are feeling the effects of the general letdown on recruiting that has existed for the past few months.

The new program prescribes that not to exceed two months of the year will be devoted to the training of other components, and also that any additional training of units of the Organized Reserves will not be permitted to interfere with the regular programs then in effect. This provision should permit the regiments and battalions to train their own men without undue interference that has been prevalent in the past. If the enlisted personnel of the Regular Army are to be used as instructors for the civilian components they must necessarily be capable of the task, and they cannot be made competent instructors nor provide efficient demonstration units if they are not properly trained. Besides, they are the nuclei of combat units of the first line and they must be prepared for this mission. By the systematizing of schedules, the Regular Army's regiments can now mould the recruits into soldiers with less difficulty.

The new instructions provide that basic and disciplinary instruction will be paramount. There will be no tactical training for higher units, using troops, excepting for communications and intelligence personnel, until companies have attained the required standard of disciplinary and basic tactical training. The command and tactical training of units higher than the company will, however, be conducted concurrently with the training of troops, but no troops will be used.

It is also prescribed that when large fatigue requirements must be met that all training, except for recruits, will cease until the work is done. This will permit of all men being present when instruction is given. Normally, training will be conducted in the mornings, and administration and fatigue in the afternoons.

The decentralization of training, which puts the responsibility on the company commander and gives him a free rein to develop his command on his own initiative, is the keynote of the instructions on methods of training. That organizations have been over-inspected in the past to the detriment of progress is no doubt the basic reason for the strict provisions prescribing that formal tactical inspections will not ordinarily be made by any commanders below brigade rank.

In whole, the new training order is sound and practical, discarding methods whose value could only be realized under the condition of adequately sized units.

Infantry School Football Prospects

ALTHOUGH the first game of the football season at Fort Benning resulted in a victory for the invader, by the margin of one touchdown, the Infantrymen came back on October 9 and defeated King College 20 to 0.

The latter game furnished a favorable comparison on early season form between the team that will represent the Army in the annual service clash with the Marines, as one week previously the Marines defeated King College 27 to 7. On that basis of comparison the annual service gridiron clash, to be held at Catholic Stadium in Washington on November 20, will see two well-matched teams in action.

The Musketeers, as the team of the Infantry School has been called, presented a line-up in the first games very much the same as last year, with the exception of the backfield where Smythe and McQuarrie are missed. The Doughboy's line is as strong as it was last year when it won ten out of twelve games with leading teams of the South. Efforts are being directed toward having the team at its best form for the crucial contest when the Army hopes to wrest the President's cup from the present holders, the Marine Corps.

Capt. Kearie L. Berry, the head coach of the Musketeers, is well known in football circles in the South as a star player on the Texas University, 2d Division and Fort Benning teams. The team is inspired with enthusiasm, and is confident that it will make a showing this year that the Infantry and the Army can be proud of.

The scores of the games played up to the time we go to press, and remaining games are:

Oct. 2: Infantry, 0; Carson-Newman, 7.

Oct. 9: Infantry, 20; King College, 0.

Oct. 24: Loyola University at New Orleans.

Oct. 30: Mercer University at Doughboy Stadium.

Nov. 5: University of Tennessee Doctors at Memphis.

Nov. 11: Parris Island Marines at Savannah.

Nov. 20: U. S. Marine Corps at Washington.

Meeting with Mexican Army in Athletics

THAT the American Army can do a great deal to further more amicable relations with our southern neighbor is without argument. Recently the 25th Infantry's band was invited to make a tour into Mexico and it was received with wild ovations wherever it appeared. Now comes the 20th Infantry of Fort Sam Houston, Texas, and accepts an invitation to play baseball with teams of the Mexican army.

The team from Col. F. L. Munson's regiment, in charge of 1st Lieut. T. Sapia-Bosch, arrived at Monterey on September 24, and met two crack teams of the local garrisons. The representatives of the Twentieth were greeted by Major General Almazan and his staff and the band of the 25th Battalion of Infantry, and they were received with special hospitality. The Mexican baseball teams showed their superiority on

the diamond winning the two games played.

This meeting in competition of athletes of the two armies has paved the way for an international military athletic tournament between the 2d Division and troops of General Almazan's command. It has been decided tentatively that the meet will comprise baseball, basketball, boxing, wrestling, and a track and field meet.

The Mexican army has adopted a program of athletics for the troops somewhat similar to that in our Army. That it attaches great importance to this phase of training and that its athletes are making fine records, can be gathered from the columns of the *Revista del Ejercito y de la Marina*, official military magazine of that republic, which devotes much space to accounts of physical training and athletic progress.

Putting the Paper Work Reform into Effect

THE recent change in regulations prescribing that practically all administrative papers within the companies of the regiment will be handled at a central office, has resulted in a variety of methods of organization of the administrative centers. Owing to the differences in strengths of the various commands the problems of the appropriate organization are more or less individual ones.

The 14th Infantry, at Fort Davis, Canal Zone, has classified the work of the personnel section of the regiment into five groups, each in charge of a N. C. O. or selected private first-class, the whole being directly under the supervision of a chief clerk. The division of the work is as follows:

1. Four clerks—Service records and extracts, soldiers' personal records, clothing records, N. C. O. warrants, discharge certificates, and desertion, apprehension and death reports.

2. Four clerks — Morning reports, strength returns, reports of changes, ration returns, special duty list, absentee list, locator cards, and foreign service data.

3. Four clerks — Correspondence books, company requisitions, shipping tickets, company and individual correspondence, transfers, discharge and furlough applications, company orders, appointment and reduction of N. C. O's, board proceedings and surveys.

4. Four clerks—Pay rolls, pay cards, allotment, insurance, deposits, final statements, officers' pay vouchers, and rosters.

5. Three clerks—Charges, military police reports, court proceedings, all papers pertaining to discipline, data pertaining to the guard and prisoners, and passes.

The regiment has prescribed that papers pertaining to the following subjects, in addition to those prescribed in A. R. 345-10, will be prepared at regimental headquarters: transfers, discharges, furloughs, company orders, extension of foreign service, return to the United States for any cause, and all papers intended for offices higher than the regiment excepting official correspondence of a personal nature of officers.

Organization Days Celebrated

TWO regiments of Infantry whose colors moved forward with the assault on the battlefield at Monterey in the Mexican War, celebrated the event, on the date selected for their organization days.

The 3d Infantry formed part of the assaulting column upon the eastern defenses of the Mexican stronghold on September 21, 1846, losing in killed and wounded more than 20 per cent of the command. September 21 was considered an appropriate date for the annual observance by the regiment of the glories of the past. The exercises this year at Fort Snelling were very impressive and a fitting celebration, one long to be remembered in the annals of the regiment. The day's program was begun with the unveiling of a monument erected by the 13th Minnesota Volunteer Infantry Association to Maj. Melville Carey Wilkinson, 3d Infantry. A review of the regiment by veterans of the 3d Infantry and the 13th Minnesota Volunteer Regiment, was followed by the organization day program. Addresses, music, athletic contests, and special social events filled the day of activities. The address of the occasion was made by Hon. Louis L. Collins.

The 8th Infantry celebrated its participation in the Battle of Monterey at Fort Screven, Ga., on September 22. The formal program included addresses by Congressman Charles G. Edwards of Georgia, Bishop Reese of the Georgia Episcopal diocese, and Col. R. J. Burt. Athletic and social events, and other appropriate events were included in the day's festivities.

The organization day of the 42d Infantry at Camp Gaillard, Canal Zone, was held on September 28. In the principal address of the day, the brigade commander, Brig. Gen. Charles D. Rhodes, said in part:

The regiment's antecedents are such as to be proud of. It was organized from the grand old 20th Infantry, under the National Defense Act of 1916; and the present regiment, which has taken part, honorably and creditably in almost every war in which our country was engaged, and which has furnished to the Army a score of general officers, gave to the 42d Infantry, one-third of its officer and enlisted personnel.

So that we can truly say that the 42d Infantry has in its regimental veins and arteries, the pure blood of thousands of brave American soldiers, many of whom patriotically laid down their lives in their country's defense.

Your disciplinary conduct has been most exemplary.

In friendly military competitions with brother-regiments of the Panama Division, the 42d Infantry has shown itself of surpassing excellence.

In athletics, the regiment has by diligent endeavor and intelligent teamwork, exceeded the expectations of your officers. Your barracks are filled with trophies, won in competition. And in so winning, you have displayed a fine spirit of fairness and square dealing, which is to the everlasting credit of your organization.

In the annual maneuvers, the 42d Infantry has displayed soldierly qualities of a high order, which have called forth praise from your department, division, and brigade commanders.

The 22d Infantry's day was celebrated at Fort McPherson, Ga., on September 20, the 60th anniversary of the organization of the regiment. The ceremony of presentation of recruits to the colors was scheduled to be followed by athletic events but, unfortunately, these had to be postponed owing

to rain. The rifle and pistol matches were held at a later date. Social events were held in the evening of the regiment's special day.

Small Bore Military Matches

THE individual and team military gallery rifle championship matches, promoted by the National Rifle Association, will be held this winter under about the same condition as those held last year. Entries from all components and branches of the military service are eligible, and the competition will be fired in two divisions in each of these events: individual military, company team, and regimental championships. All comers in each corps area will fire for the corps area championships, then the winners of these will contest for the championship of the United States. In view of the increased interest in small-bore shooting in the Infantry, there should be representation from every regiment in these events.

The company pistol team match is also an important event that should attract the pistoleers from every machine gun, headquarters and service company.

Full information on these events can be obtained by writing to the INFANTRY JOURNAL or to the National Rifle Association. In the military matches the following dates are announced:

Individual Military Championship Match—Entries close Nov. 14, 1926; fired between Nov. 29 and Dec. 26, 1926; targets to be in Washington Feb. 8, 1927.

Company Team Match—Entries close Dec. 12, 1926; fired between Dec. 27, 1926, and Jan. 30, 1927; targets to be in Washington Feb. 8, 1927.

Regimental Team Match—Entries close Jan. 16, 1927; fired between Jan. 31 and March 6, 1927; targets to be in Washington March 15, 1927.

Summer Training in the 57th Infantry

THE regimental commander of the 57th Infantry (Philippine Scouts), Col. C. C. Todd, has promoted athletics in his regiment so that every man in the command is benefited. Especially has this been done during the school year, from June 1 to October 31, which is also about the period of the annual rainy season. On Mondays, Wednesdays and Fridays the period from 9.30 to 11.30 a. m. was used for compulsory athletic schools. Each man not on post special duty was required to select that form of athletic endeavor best suited to his physical requirements (such selections being adjusted by the company commanders so that no one activity is top-heavy within the company) and under competent instructors consisting of officers and selected noncommissioned officers, the individual is brought up to the highest possible standard. The following forms of athletics were engaged in: basketball, baseball, volley ball, soccer, track, field, swimming, boxing and wrestling.

Once during each month the regiment conducts a field meet and the results have shown a decided improvement over the preceding year's meets. At each regimental meet the men are divided into two classes: (1) contes-

tants, men who have won places in previous department or post meets, and (2) those men who have not competed or who had not sufficient training to enable them to reach the finals. This division has so increased the confidence of those in the second class that the results are most favorable and in some cases these men are making as good a showing in events as the more experienced athletes. In this way new athletes are being developed each year.

As a result of this intensive athletic training the soldier is bound to be benefited physically, mentally and morally.

Among the officers of the regiment golf seems to be the favorite sport. Recently a competition was held between battalion groups; headquarters, and service companies constituting one such group. The 3d Battalion was the winner of this match. In June the brigade commander, Brig. T. Q. Donaldson, donated a cup to be competed for annually between the 45th Infantry (P. S.) and 57th Infantry (P. S.). The 57th Infantry won the cup for the first time quite handily. Teams were composed of ten men each including the commanding officer of each regiment. Two other golf matches were played, one with 1st Battalion, 15th Infantry and one with Division Headquarters, both matches being won by the 57th Infantry. Baseball is a popular game and during the past year three games were played with officers of other organizations, the 57th Infantry winning all three games.

The school system used during the season just past provided that certain men be selected from the regiment to attend post schools. Besides, the regiment conducted machine gun, communications, intelligence, clerks, and educational schools. The last named was for those Scout soldiers who have a meager knowledge of the English language and who cannot read or write. These schools are on the daily schedule from 7.15 to 9.15 a. m., recitation periods being of fifty minutes' duration with ten-minute rest periods between classes. In addition, there are company schools for all remaining men in the companies covering the various technical and theoretical subjects prescribed by division headquarters. On Tuesdays and Thursdays from 9.30 to 11.30 a. m., practical instruction has been applied with good results.

Here and There With the Infantry

SPECIAL ceremonies marked the presentation of the basketball trophies at Fort Benning early in October. At a regimental parade the 24th Infantry's teams received the Gowdy cup and the Spalding trophy for winning the garrison championship, and the championship pennant for the inter-mural series—the major honors in baseball at Fort Benning for 1926. The *Infantry School News* cup was presented to the Service Company, 29th Infantry, for winning the championship of the Class B league.

①

FROM THE RECORDS in the office of the Chief of Infantry, high scores made in record practice with the machine gun in the past few years have been: 453, 435, 423, 420, three of 418 and two of 417—out of the possible 500.

AT THE ARMY horse show held at Fort Harrison, Ind., October 3, the 11th Infantry won the majority of events. The 10th Infantry's polo team on this occasion defeated the team of the 3d Field Artillery in three games, thus demonstrating again that the doughboy can ride as well as walk.

①

IN THE NORTHWEST regional target matches held at Camp Lewis, September 26-30, a very efficient school for civilian instructors was a prominent part of the meet. The 7th Infantry team won the inter-regimental service match, with the 4th Infantry second. In the inter-club championship, Fort George Wright (Capt. C. W. Easley, captain) was first, with a 7th Infantry team second. Capt. C. W. Easley, 4th Infantry, 1st Lieut. A. P. Kitson, 7th Infantry and Capt. F. W. Berger, Q. M. C., won one or more of the individual matches. The team from the U. S. S. *New Mexico* won the Western United Service match, with the Army team second.

①

ADDITIONAL MEMBERS of the Chief of Infantry's Combat Team, composed of premier squads of regiments or separate battalions in musketry, are as follows:

From Company G, 2d Infantry, at Fort Sheridan, Ill.: Corp. John L. Jordan, Pvts. 1st Cl. Michael Sosluk, Nitte W. Standish, Artie V. Lambert, Stanley J. Groboski, Fred Mastrech, Bowman R. Piland and Pvt. Walter C. Sexton;

From Company B, 17th Infantry, at Fort Crook, Neb.: Corp. Frank W. Phillips, Pvts. 1st Cl. Roger Presberg, Orville R. Dooley, Earl A. Johnson, Charles R. Cummings, Sherman M. Davis, Guy S. Sornson and Charles H. Blair.

①

AT THE REGIMENTAL review of the 10th Infantry on October 2, Col. D. T. Merrill made presentations to members of his command, as follows: Honor streamer to Company G, Capt. M. F. Shepherd; excellence streamer (Group A) to Company F, Capt. M. E. Halloran; excellence streamer (Group B) to Headquarters Company, 1st Lieut. P. E. LeStourgeon; "best soldier" medal to Pvt. John J. Kelley, Hqrs. Co.; small-bore rifle trophy to Company A, Capt. Bosier Castle, and the basketball championship cup to the Service Company.

①

THE 11TH INFANTRY furnished a composite rifle company for a parade in the Greater Indianapolis ceremony on September 30. The entire regiment participated in the dedication of the new National Guard armory on October 8.

①

TO PROMOTE MARKSMANSHIP within the 4th Infantry, two trophies are awarded yearly. One of these, the Colonel I. C. Welborn trophy, is awarded to the rifle company of the regiment attaining the highest average enlisted score, assigned and attached, with the rifle during record practice, regular season. This trophy was won for the target year 1926 by Company A, stationed at Fort Missoula, Mont., with an average score of 304.35. The other, the 4th Infantry machine gun trophy, was awarded to Company M, stationed at Fort Lawton, Wash., with an average enlisted score, assigned and attached, of 350.30 with the machine gun during record practice.

THE INTER-REGIMENTAL football league in Hawaii began its schedule early in October and games will be played through November. Besides the teams of the 19th, 21st, 27th and 35th Infantry regiments, there are entered teams from the 8th, 11th and 13th Field Artillery regiments and the 3d Engineers.

ⓘ

THE 10TH INFANTRY passed in review recently for Capt. Charles H. Sears, who was retired for physical disability resulting from injuries sustained in a premature explosion at the Fort Thomas target range two years ago, where he was carrying out instructions to destroy some old bombs.

ⓘ

THE CHIEF OF INFANTRY has requested that recommendations for details of student officers for the Advanced and Company Officers' classes at the Infantry School, for the Tank and Signal Schools for the 1926-27 courses be in his hands by November 30. The requests were made of all corps area commanders, the superintendent of the U. S. M. A., and the commandants of the Infantry and Tank Schools.

ⓘ

FIFTY-THREE officers of foreign nations are now on duty with the Regular Army, either with troops or at service schools. Cuba has 26 and Mexico seven. Others are from Ireland, Chile, Guatemala, Japan, Netherland, Norway, Bolivia, Peru, Siam and Spain.

SAN FRANCISCO'S dailies contained columns on the recent contest in the 30th Infantry, which they termed the "beauty contest." The test was held to determine the best soldier in the regiment and was won by Pvt. James L. Murphy. At the ceremony honoring the selected soldier, there were present the female beauties who represented San Francisco and Australia in the Atlantic City contest.

ⓘ

SENATOR CAMERON, of Arizona, was present at a review given in his honor by the 25th Infantry and the 10th Cavalry at Fort Huachuca on one day during the period of the combined fall maneuvers of the two regiments. The Senator was very favorably impressed and stated after the review that after seeing the troops and knowing what they do, close up, he is better able to champion the cause of preparedness in the Senate, and will put forth greater efforts than ever along that line.

ⓘ

THE MARKSMANSHIP cup presented by the 23d Infantry to the company having the best qualification record was won during the past target season by Company A, commanded by Capt. Collin S. Meyers. This company qualified 100 per cent with the rifle, the pistol and the automatic rifle. The captain qualified with the highest score with the rifle in the regiment. The company also has the squad that was designated as part of the Chief of Infantry's combat team.

ⓘ

Items on the National Guard

Training Directive of the National Guard

THE Militia Bureau has prepared its annual training directive for guidance of corps area commanders in the preparation of the parts of their training programs affecting the National Guard. The training programs prepared by State authorities will be governed by the provisions of the programs of the corps areas.

The objective of the training is, of course, to prepare the commands for efficient active field service in war, but owing to changes of personnel, limited time for training, and other reasons, it is expected that the units of the National Guard may fall short of this objective in peace time, but the intermediate objective which can be attained is thorough basic training. Therefore, the training of all organizations of the National Guard during this training year will be confined to *basic training*, except where, by training tests, proficiency in such training has been established to the satisfaction of higher authority, which then may authorize more advanced training.

Basic training for troops includes all elements of the training of the soldier, squad, section, platoon and company, troop or battery, for the particular branch of the service. For higher commanders and staffs, it includes all training preparatory to the conduct of combat exercises of the appropriate command. This training comprehends that authorized for all battalion and higher commanders and their staffs.

National Guard training has always been divided into two logical phases: armory and field instruction. Emphasis is again made on the distinction to be drawn between the two phases, for when in the field, practical problems applying the theory and limited practice gained in the armory period immediately preceding must be prescribed. Even when in the field, at least half of the training must be devoted to the squad, section and platoon. Training in leadership must be an essential element of the instruction.

Schools for officers and noncommissioned officers are to be conducted during the armory period. For officers, the desired end should be to carry out in an effective manner the schedule of training in an efficient and interest-arousing manner and to prepare officers for promotion and higher command. The schools for officers and N. C. O.'s will be held daily when in camp and are prescribed for the afternoons. When in camp each morning's work will be purely military training and will consist of a minimum of five hours' application.

The following is provided for range firing and service practice for Infantry:

All organizations will be required to conduct range practice or service firing with the arms with which equipped:

Organizations armed with rifle: course D.

Organizations armed with pistol or revolver: dismounted course.

Where range facilities are available, organizations armed with the rifle, pistol or revolver will complete their range practice during the armory period. No preliminary instruction in rifle marksmanship will be given in the field and individuals or organizations which have not received such instruction, including satisfactory completion of the prescribed tests, will not be permitted to fire. Firing during the field period will be limited to preliminary and qualification firing of such individuals as have not completed them on home ranges, and such combat firing as is necessary in connection with the execution of small problems.

Politics in the National Guard

FROM ADJUTANT GENERAL'S BULLETIN, MINNESOTA NATIONAL GUARD, OCT., 1926

LAWFULLY constituted governmental agencies, whether State or Federal, have a definite place in the political structure. That it is so, is well. It does not follow, however, that politics have any place in the administrations of that agency. The divorcement of politics from the various affairs of civil government has long been an objective by the mass of the people. It is highly desirable that this state be achieved as soon as possible. In the military, it is vital that politics be eliminated and that the laws and regulations governing that agency be administered fairly and impartially by the lawful authorities without interference from outside sources of their judgment and common sense warped by pernicious propaganda.

Prior to the passage of the act of June 3, 1916, commissioned officers, almost without exception were elected by popular vote of the personnel of the organization. Those individuals who served prior to that date and are still members of the Guard realize what an improvement the present method of selection is over the old. Under the old system when a vacancy occurred it was a signal for political activity on behalf of the individual which had been selected by a group. It was pernicious and led to many evils. Under the present system, as contained in the Act of June 4, 1920, and the laws of Minnesota, an officer below the grade of colonel is selected and appointed by the respective organization commander, and commissioned by the Governor, subject to passing a professional examination indicated by the Secretary of War. This system has improved the standards among commissioned officers and no sane individual would advocate going back to the old. We know of only one State that adheres to the system of election and that is provided in the State Constitution.

With few exceptions, those in authority, have striven mightily to eliminate politics from the National Guard, especially in the matter of appointments and it is believed that they have succeeded. Recently, the President of the United States, condemned in no uncertain terms the use of political influence in endeavoring to secure promotion in the Regular Army, and indicated that in the future summary action would be taken in the case of any officer who attempted to inject politics in the matter of promotion. It might be well to state that these sentiments are strongly indorsed by the Governor of this State and the use of

propaganda or political influence will have the opposite effect from that which was anticipated.

During the past few days this office and the Executive Department have received a number of communications and resolutions, urging the appointment of an individual to high command in the State. Certain junior officers also took upon themselves to write to this office and to the commander-in-chief, expressing opinions which had not been asked for, were not desired, and which showed a lack of knowledge of the facts in the case. It can scarcely be questioned that these officers were ignorant of the manner in which official communications should be routed. Methods such as these are reprehensible, serve to bring discredit upon the National Guard and react unfavorably on all concerned.

Propaganda such as this has no place in the National Guard. It is unethical to say the least and constitutes a flagrant violation of regulations. This sort of politics has no place in the National Guard and will not be tolerated by the present administration. This office has striven to divorce politics from the internal affairs of the Guard and will oppose any effort to inject politics into its councils. In enunciating this policy it is believed that it represents opinion of the rank and file. This office will always be happy to receive an opinion upon the merit of any case and suggests that the proper place to secure information is from the custodian of that information, and not from outsiders who have no knowledge of the facts in the case.

The National Guard of this State or any other State can exist only so long as it functions as a harmonious whole and obeys in letter and in spirit the laws and regulations which they themselves have caused to be enacted or promulgated. The raising of the question of geographical limits is not only unsound but dangerous. Those who are charged by law with the enforcement of the law must necessarily represent all elements of the National Guard; geography cannot be considered. To recognize or even condone a policy which would bar an officer from promotion because of station would be indefensible and result in the inevitable dissolution of the Guard.

In conclusion it is desired to again emphasize the fact that officers or enlisted men who endeavor to secure advancement for themselves by other than methods countenanced by existing laws and regulations may expect prompt and summary action by the commander-in-chief.

Reflections on Recruiting

THE *Oregon Guardsman, which* speaks for the National Guard of that State, some time ago devoted an issue to a thorough discussion of that ever present problem—recruiting.

A number of points are treated in a manner that indicates some sound thinking on the part of the editor and his staff. Arguing for the establishment of a sound recruiting policy the editor says flatly that no organization commander is properly performing his duties unless he has in effect a definite and intelligent plan of recruiting his unit. The editorial continues:

A policy of spasmodic recruiting is almost as bad as a policy of no recruiting at all. Under this system no effort is made to replenish the ranks which by the natural process of the ordinary discharges are constantly diminishing until the plight of the unit is brought to the attention of the commander, either by higher authority or by the fact that the commander and his officers are not qualifying for pay. Then and then only is an effort made to save the unit from disbandment. And what is the result? Training must be dispensed with while the few remaining members bend their combined efforts in getting new members. If the spasmodic recruiting campaign is successful it is months before the unit is reorganized and ready to take up the training schedules. The loyal members of the command become disheartened and community interest in the National Guard lags.

Hence the necessity for a definite and intelligent plan of recruiting; a plan that is so thorough that it works almost automatically. One that will bring into the ranks each month a sufficient number of new men to take the place of those who have been discharged.

Of first importance in forming such a plan is getting the community solidly behind the organization. This can be accomplished only by letting the business men and other civic and public-spirited organizations know the unit's needs.

The responsibility of having the support of the community behind the National Guard organization rests with the organization commander, and if he cannot get it he has himself alone to blame. If he cannot get this support then he is out of place as an organization commander and ought to resign for the good of the service.

Community backing is essential but even with such backing the drill attendance of an organization cannot be maintained at a high level unless some thought is given to the point of presenting the instruction attractively. Americans are like all other human beings, i. e., in an emergency they will give all they have in defense of their country but in time of peace the medicine of military preparedness has to be camouflaged as lemonade if eligible young men are to be expected to take it regularly.

The theory that the distribution of responsibility which will cause each noncommissioned officer of the company to be responsible for the attendance of a certain quota of men led to a new system of stimulating drill attendance in at least one company. The procedure was as follows:

Each noncommissioned officer, commencing with the first sergeant, and on down the line to the junior corporal, was responsible for the regular attendance of five members of the organization. These five members were allotted to the noncommissioned officer by name and, as some of the names represented "poor timber," the responsibility of getting new men rested with the noncommissioned officer in question.

In one instance, a noncommissioned officer of the company was unfortunate in that the five names allocated to him proved to be those of men who had for some time past been negligent in the matter of drill attendance, and had simply lost interest in the company. After repeated attempts to get the men to report for drill the noncommissioned officer went out and recruited five new men, brought them before the captain and requested the discharge of his original five, on the grounds of desertion. The charges were sustained on investigation, and the men subsequently dropped for desertion. The new men were enlisted and this noncommissioned officer now has 100 per cent attendance.

Under this system in one company, any noncommissioned officer, who failed to maintain an attendance of his quota of at least 60 per cent for one entire quarter, was immediately reduced to the ranks.

National Guard In Americanization[1]

By First Lieutenant John Lee Dressler, 107th F. A.

AMERICANIZATION is a big subject, too big by far to be adequately covered by any single article. It is a subject of vital importance to the nation. We have opened our gates to the foreigner, accepted him within our land. He has different ideas, different ideals, different standards of living. If he be permitted to carry on his Old World ideas and Old World standards it can have but one result. We will be a nation of transplanted European colonies, an heterogeneous collection of divers nationalities living together in one land with no common ideals, no common thought, no common patriotic standards. We will not even have the bond of a common language.

Throughout the length and breadth of the nation papers are being printed in a foreign tongue. Throughout the length and breadth of our land Old World tradition is being perpetuated by the hyphenates who have not yet fully accepted their new nationality. There has never been adequate legislation to cover the case because, it has been claimed, we are a free country. But how long would we be a free country were we to accept indiscriminately and adopt as our own all the European ideas and ideals that have been transported to our shore?

In the face of present conditions the problem becomes one, not of forcing the Americanization of the alien, but of winning him over by a program of education. We have formed, and are forming, associations, clubs and whatnots for the purpose of Americanizing the foreigner. We have opened our American institutions to him. We are giving him every opportunity to become a good citizen. But we have, heretofore, sadly neglected the one organization most capable of making him a real American, the National Guard of the United States. We have forgotten for the time that it is in a military organization that the glowing spark of loyalty is most readily fanned into the flame of patriotism, the fire of good citizenship.

Objection to Enlisting Foreigners

The chief objection to enlisting the foreigner in the National Guard has been raised by our own officers. Within our ranks he constitutes a problem. What will we do with him? We have him for only one night each week, one and one-half hours to be exact. We cannot do much with him in that time unless he speaks English fluently. We cannot devote the entire drill period to his individual instruction in the idiosyncrasies of the English tongue when he should be learning the eccentricities of his piece or of his team. Without a thorough knowledge of the language "as she is spoke" by Army drillmasters, he can never progress at the same rate as his more fortunate brothers, the other members of his battery. It is expecting too much of him; his handicap is too great.

The result has been just what might be expected under the circumstances. We have discouraged his acceptance in our units. We have practised a rigid selection of personnel for the

[1] Article furnished by Militia Bureau.

purpose of keeping him out. In doing this we have done ourselves a grave injustice, greater, in fact, than the injustice that we have done him. If he is physically and mentally normal, if his nationality is his only handicap we have eliminated a potentially good soldier, a desirable recruit. We have lost sight of the fact that our nation, in its very inception, became the melting pot of the races, that we have drawn from each race so absorbed its own peculiar racial virtues; though, it must be added, its vices as well. We cannot afford to lose sight of this fact.

As soldiers we are chiefly interested in the military value of the men whom we accept for enlistment. The World War should have demonstrated conclusively to us the fighting qualities of our adopted brother. He was in all of our units. He served, shoulder to shoulder, with us. We found him to be a good soldier and a dependable buddy. Why discriminate against him now?

A STRIKING EXAMPLE

There was one occasion that vividly impressed me with the realization of the military value of our foreign element. It was that red night in the Marne, the night that followed Bastille day, 1918, the night that the Boche launched his final drive, his last desperate attempt to gain a decision on the western front. It started at midnight with the scarlet belch that shot from the throats of thousands of massed field guns. With the first shell came the fury of his strafing, the incessant roar that was to last well into the day, the lurid crimson flash that lit the heavens until dawn. His shell and shrapnel shrieked through the fields, battered the ripe wheat, rattled down the streets of Conde-en-Brie and filled the air with its hurtling hell of whistling death and flying splinters of shell, stone and beam.

Out in the wheatfields a thin line of American troops crouched low in the mud, their bloodshot eyes straining forward to penetrate the gloom that hung like a soggy blanket over the Marne. They were not very strong, a few hundreds of them, a handful of excited, shivering men undergoing their first real action. There were men from L and M Companies of the 109th, and from B and C of the 110th Infantry, Pennsylvania National Guard. They were destined to face the swarming hordes alone, but no man knew it then. They believed that the French were holding in front of them and they knew that the Thirty-eighth was on their left, just where they did not know; somewhere, anywhere, nobody cared particularly. Nor did they know that all were being sacrificed in the attempt of French higher strategy to break the famous German Hutier system of massed attack. They did not know that they were only expected to hold until the Allied forces could be massed beyond the zone of that first rushing swarm. They held on, not fearlessly—for true heroism is a bastard trait, born, not of courage, but of greater fear of having one's fear discovered—but with the stubbornness of Americans trained by the intrepid "Uncle Charley" Muir, they held because the word "run" had no place in their vocabulary.

History will tell you the part that they played on that night, those four

companies of determined men, drawn from the mines and mills, the fields and factories, the shops and offices of Pennsylvania. They held. In the face of the grey-green hordes that swarmed, cursing and gibbering, down the bank of the Marne, they held. They knew little of tactics and the higher strategy of the French. They cursed them, branded them cowards, watched with heavy hearts as their blue-clad allies "partied". They had not even sense enough to get killed as per schedule but they hung on with bulldog tenacity.

FIGHTING QUALITIES DEMONSTRATED

Slowly the dawn broke and the force of that first surge broke with it. With the morning came the prisoners, the endless lines of walking wounded and the straggling survivors who were lost in the night. Out in the wheat they dug deeper into the mud. They had little of strength and less of organization. They were covered with mud, spattered with blood, hungry, thirsty, nerves atingle, their clothing hanging in tatters from the sharp teeth of the wire, battered but unbeaten still. They had held the Marne.

Now for the real point of the story. When that little handful of survivors straggled back into the town, sometime later, none knowing where to go, none caring if he got there, the first man to reach Conde-en-Brie was Corp. Pete Stungis of the 109th Infantry (I have since forgotten his company), a Pittston miner, foreign born and of Russian parentage. With him came a little Scranton Italian, Marulle, I believe his name was, and a Scranton Irishman named O'Neill. All were foreigners, none American born. Of course there were many American-born soldiers in that little band, many who now lay, stark and cold, in the shell-torn wheat field, but these three men should serve to demonstrate my point. They should thoroughly demonstrate to all skeptics the fighting qualities of the foreigner within our gates, should prove, as Kipling has so well said, that, "There is neither East nor West, color nor creed nor race," in a time of national peril. All were American soldiers, fighters all.

To come back to the National Guard as an Americanizing influence, it is the opinion of the writer that the foreign-born young man has much to offer us in return for his training. What if he does eat garlic, is not so particular about changing his socks, insists on singing every time he gets—I forgot about the Volstead Act—blinks foolishly back when you give him a command that is beyond his scanty supply of English. All of his faults may be corrected with an ease that is remarkable in its simplicity of method. He may hum and haw and stutter if you give him a long-winded explanation, but just give him a practical example and watch him step. The language of action is universal.

MAKING BETTER CITIZENS

Now for the real part of the National Guard in Americanization. Having dispelled the illusion of his stolidity in ranks let's see what we can do to make him a useful citizen apart from his military duties. Every man, regardless of race, religion or creed, has the same inherent potential capacity for patriotic service in war or

peace. If we get the young foreigner, enlist him in our units, train him in the duties required of him, we are doing the nation a service. But, if we go a step farther, assist in training him in the duties of citizenship, instill in him the American ideals, the Americanism that we would have, wake the sleeping spark of loyalty and patriotism within him, we have done the nation an infinitely greater service and have benefited ourselves as well.

A GREAT SERVICE TO THE NATION

By this I do not mean that we should make our outfits a sort of combination clearing house and school for would-be American citizens. Far from it. But, we may cooperate with the forces that are working to educate him. We are living in an industrial center. Night schools are conducted on all sides of us for his education. If every officer who enlists such a man will advise him, at the time of his enlistment, as to where he can secure the education necessary to accomplish this purpose it will be a step in the right direction. A word of advice may mean the difference between a good soldier and a stack of charge sheets or a dub who insists that he has two left feet, either of them being quite capable of starting off in any movement.

Many National Guard officers are also employers of labor. They are in a position to realize the value of education and Americanization of the foreigner. They can readily see that the foreigner who has become Americanized and educated is not so likely to become a drifter. If he is a member of a National Guard unit, it is still less likely. They should readily see the advantages of recruiting him into our units and should encourage his acquiring a training in citizenship. They are in a good position to cooperate with the men who will give him that training. Why not do it?

The whole thing simmers down to several pertinent and inescapable facts. We must keep our outfits recruited up. We must have men who are capable of becoming soldiers. If the young foreigner is physically fit and mentally normal there is no reason why we should not enlist him. But, having once enlisted him, we owe it both to him and to ourselves that we go a step farther and make of him, not only a trained soldier but a good American. By so doing we do ourselves and the nation that we serve a greater service than we know.

News of the Guard Briefly Told

THE Adjutant General of Texas recently authorized the payment of $100 to each company fund and $150 to each regimental fund from the general appropriations made by the State for the support of the military department.

THE OHIO National Guard was given a splendid tribute in a report on the tornado disaster which swept over Lorain, Ohio, last June. The report says: "The work of the National Guard in general was highly praiseworthy. It is of interest to note that crime was conspicuous by its absence, that close supervision prevented fires, of which there was grave danger due

to the tangled condition of the debris, that looting was absolutely prevented and that order was almost miraculously brought out of chaos. The prompt arrival and the efficient action of the National Guard undoubtedly saved many lives, a tremendous amount of property and was of great aid in restoring the morale of the stricken cities."

INDOOR rifle qualification will be an objective of all members of the Minnesota National Guard during the armory training period. Instead of specializing on small-bore teams, every man will be required to fire a specified course of 40 shots, ten each standing, kneeling, sitting and prone, at the "Y" target for positions other than prone, and the "Z" target for prone.

COMPANY M, 102d Infantry, Conn. N. G., commanded by Capt. Harold A. Thompson, won an inter-State pistol match from Headquarters Company, 107th Inf., N. Y. N. G., at Shelton, Conn., on September 18. The meet was made the occasion for the assembly of a large number of notables, including Governor Trumbull, Lieutenant Governor Brainard, and a score of prominent military men. More than 80 guests were present at a dinner given by Captain Thompson, following the match, at which Governor Trumbull, and Generals Payne and Haggerty made addresses. The match was the first of a two out of three series, the second to be staged in New York next spring, with the winner of the series taking permanent possession of the handsome trophy offered by the Derby-Shelton board of trade.

IN "THE KEYSTONE," publication of the Headquarters Detachment of the 28th Division, Penn. N. G., Master Sgt. M. L. Morse discusses the status of the detachment from an administrative point of view and presents some forceful arguments as to why the detachment should be a separate and distinct entity in tables of organization. He states: "We propose a change in tables of organization and that one officer be dropped from the Headquarters Company and assigned to Headquarters Detachment as a separate unit, with possibly the addition of another officer."

LATE REPORTS show that there are 3,015 National Guard units, stationed at 1,426 different localities. There are 740 different headquarters. Sixty units were added to the Guard since June 30, 1925.

ATTENTION is called to the announcement of the National Rifle Association's small-bore military championship events which are mentioned in more detail under "Regular Army Infantry Activities." The National Guard has always taken a lively interest in these events and has won a number of the titles in the past, and it will without doubt have a large number of entries this year.

Reserve Officers' Department

Appointments in Infantry Reserve Discontinued

ON September 24, instructions were issued by the War Department to discontinue original appointments of Reserve officers in the Infantry Reserve, with the exception of the following: graduates of the R. O. T. C., and C. M. T. C., former officers of the Regular Army, and officers whose reserve appointments are based on Federal recognition in the National Guard. In this connection a brief résumé of the present status of the Infantry section of the Officers' Reserve Corps may be of interest.

From reports submitted by various corps areas, and from other sources, it had been ascertained that in the corps areas there exists a surplus of from 500 to 900 second lieutenants of Infantry Reserve, that is to say, there are this number over and above all vacancies in the grade. There are a few vacancies in the higher grades in some of the corps areas, but the total of these vacancies is but a small percentage of the surplus of the second lieutenants. It is interesting to note that there are about 30,599 Reserve officers of Infantry, which includes 3,180 federally recognized National Guard officers.

Changes in regulations for the administration of the reserve, soon to be issued, will call for monthly reports from all sources, showing the total number of surplus Reserve officers by grade and the number of vacancies in each grade. There will then be available an accurate and up-to-date numerical criterion of the procurement status of the entire Officers' Reserve Corps.

The War Department is constantly studying problems concerning the Organized Reserves. At the present time the branch assignment groups are receiving considerable attention. The Chief of Infantry's "branch assignment" group of Infantry officers, as differentiated from the groups under the various corps area commanders, now consists of 568 officers, who are assigned to units under the jurisdiction of the Chief of Infantry including the Infantry and Tank Schools.

A revision of the peace-time procurement objective is now being made, and as soon as completed, closer liaison between the Infantry officers of the branch assignment group and the units to which they are assigned can be established. This step does not contemplate any radical change in the present policy, but by it it is hoped to aid in the development of better unit esprit, and to establish closer ties between the various officers of their respective units. There have been some difficulties in reaching this objective heretofore, the chief of which was the fact that officers of the branch assignment group live at such widely scattered localities. As far as is consistent, this condition is being remedied by assigning officers residing near the headquarters of their units.

Opening Fall Meetings Have Been in Order

THROUGHOUT the country the opening fall meetings of the various Reserve units have been noted for their large attendance and the enthusiasm with which the work of the winter season has begun. In many localities the local chapter of the Reserve Officers' Association took the lead in organizing for social and instructional purposes. Everywhere the fullest cooperation between the three great components of the Army of the United States has been expressed in more than mere words.

At LaCrosse, Wis., the local Reserve officers welcomed the newly arrived officer in charge of Reserve activities in that section, Lieut. Col. G. A. Wieser, Inf., at a get-together on October 7. A number of addresses were made, including one by Lieut. Col. S. A. Park, who, in the course of his remarks, said: "Congress is appropriating money for training only about 16,000 Reserve officers, while there are 100,000 over the United States; thus it would require between six and seven years to train all of the Reserve officers in the country if they accepted such training. The peace-time function or mission is practically as important. Reserve officers occupy a unique position inasmuch as they are not restricted by military or political consideration, but are really civilians with an especially deep interest in the national defense program. This peace-time function would include the duties of promoting and supporting the C. M. T. C., the R. O. T. C. and the other phases of national defense, combating an exposure of the pernicious, radical propaganda and agency."

Eighty-five Regular Army, National Guard and Reserve officers attended the opening meeting of the Birmingham (Ala.) chapter of the R. O. A., at which plans were made for the beginning of the winter's work. The newly elected president of the chapter is Maj. W. A. Hardenbergh, Sig. Res. The military instruction of the meeting consisted of a lecture by Capt. W. A. Dumas, Inf., on the Atlanta campaign of the Civil War.

Commissioned officers of the civilian components in Kansas City are fortunate in having available the services of instructors of the General Service Schools at Fort Leavenworth for their winter course of instruction. By arrangement with the chapters of the Reserve Officers' Association in Greater Kansas City, thirty conferences and lectures will be held during the coming winter, a large number of which will be conducted by the instructor personnel from Fort Leavenworth and the remainder by the local Regular Army executives with the Organized Reserves under the direction of the senior instructor, Col. Willis Uline, Infantry.

During October many of the State departments of the R. O. A. held meetings, electing new officers and also delegates to attend the annual convention of the association. The convention met at Norfolk, Va., October 25 to 27. One of the speakers at the convention was Brig. Gen. E. T. Collins, commandant of the Infantry School. A report of the resolutions passed will be contained in the next number of the INFANTRY JOURNAL.

The Constitutional Theory of National Defense[1]

THIS question is often asked, and properly asked: "What is the theory regarding the National Defense, as it was understood by that body of thoughtful Americans who framed the Constitution?"

There are three means by which men may arrive at a correct judgment as to the purport of any document:

First.—Men may study the document itself; that is *internal* evidence.

Second.—They may study the deeds and the other writings of the men who framed the document.

Third.—They may study the era in which it was written. These last two means are known as *external* evidence.

Approaching the study of the United States Constitution from the first angle, we find that the gentlemen chosen by the colonies to incorporate their purposes in a permanent instrument under which some three million people in thirteen states might carry on a Federal Government, very logically began their task by setting down categorically the principal reasons which actuated them.

The framers of the document discovered and listed six reasons for engaging in this momentous task. They determined that they were framing the Constitution,

1. To form a more perfect union;
2. To establish justice;
3. To insure domestic tranquillity;
4. To provide for the common defense;
5. To promote the general welfare; and
6. To secure the blessings of liberty to themselves and their posterity.

Proceeding from that point, their first care was to provide the general machinery which was to make these purposes capable of accomplishment. They laid down the program for the Legislative, Executive and Judicial components of the government, and invested them with certain duties and at the same time bound them by certain limitations.

Throughout their deliberations, the internal and external security of this new state occupied a prominent place in the minds of the framers. Looking for a moment at the external evidence, it is easy to understand the reason for this concern. The gentlemen of the convention were familiar with the varied and dangerous vicissitudes of statehood; each one was a representative of a smaller state, wherein throughout a long period, it had come to their painful attention that nations are never automatically perpetuated. And they were also, for the most part, students of their times, and of past times, and so they carried a very clear sense of the gravity of their task.

In view of this background, it is interesting and illuminating to analyze the duties which they imposed upon those who were to be chosen to conduct the new government—that is, the Congress.

Here we find that eighteen paragraphs were employed to set down these general powers. Before proceeding to analyze these eighteen paragraphs, let us revert to the six reasons for the framing of this document. In view of all that we know of the conditions which confronted them, it would not be in any sense a strained

[1] From a paper prepared by the Reserve Officers' Association.

statement to say that each one of these six reasons implied the probable use of an adequate armed national force to render it effective. But if a part of these reasons seem to indicate that condition but vaguely, certainly there are three, or one-half of the purposes, for whose accomplishment all those present entertained the conviction of the necessity of armed protection. These three are: (3) To insure Domestic Tranquillity; (4) To provide for the Common Defense; and (6) To secure (i. e., to safeguard) the Blessings of Liberty to Themselves and Their Posterity.

If there could be any doubt of the presence of this thought in the minds of the framers, such doubt will be dispelled by inspecting the powers of Congress—those eighteen paragraphs before alluded to which will now be investigated.

The first paragraph of such a code may well be considered to carry in it those provisions which the framers deemed to be of first importance. Reading the first paragraph, we find that the convention, in a single brief sentence, made provisions for two absolutely essential conditions; first, that the government should have money to run on, and second that the government should be defended. And so they said to Congress, first of all, "You are hereby given power to lay and collect taxes, and *power to provide for the common defense.*"

Now, that vital matter attended to, they proceeded to more detailed duties and powers.

EMPHASIS OF NATIONAL DEFENSE

Again, for the benefit of the doubt, omitting some of the paragraphs less definitely related to national defense, we still find, in addition to the first paragraph, the following which unequivocally pertain to the nation's armed forces, or to duties to be performed by these forces:

10. "To define and punish piracies and felonies on the high seas, and offenses against the laws of nations";
11. "To declare war, etc.";
12. "To raise and support armies, etc.";
13. "To provide and maintain a Navy";
14. "To make rules for governing the land and naval forces";
15. "To provide for calling forth the militia to execute the laws of the nation, suppress insurrections, and repel invasions";
16. "To provide for organizing, arming and disciplining the militia, and for governing such part of them as may be employed in the service of the United States, etc."
18. "To make all laws which shall be necessary and proper for carrying into execution the foregoing powers, and all other powers vested by this Constitution in the Government of the United States, or in any department or office thereof."

To recapitulate, we find that of the eighteen paragraphs listing the powers of Congress, nine of them, or fifty per cent, are definitely concerned with the armed defense of the nation.

And we can go further than that. For in the light of subsequent history, we can discover that most, if not all, of the remaining nine paragraphs rested for their support upon the military provisions. Shall we spend a moment with these other provisions?

6. "To provide for the punishment of counterfeiting." In more than one instance, the Nation's armed forces have contributed to enforcement of this power.
7. "To establish post offices and post roads." No other governmental agency can even distantly approach the Army in the work it has done to carry out this provision. The whole Northwest was opened up by the Army, under the Lewis and Clark expedition. The Army conducted nearly all of the preliminary explorations in the early days of the country. It constructed the early roads, built bridges and canals, made the necessary surveys and maps, and initiated and carried on the methods which are now employed in the geodetic, topographic and hydrographic surveys of our possessions. And up to 1855, or but six years prior to the Civil War, there was scarcely a railroad in this country which was not projected, built, and operated in large part by the Army.
3. "To regulate commerce with foreign nations and among the several states, and with the Indian tribes." For 100 years, commerce with the Indian tribes was *mis*-regulated by civil agents of the government so grossly and so unfairly as to demand the constant intervention by the armed forces. Here, let it be said, the Army stands in a most unimpeachable, blameless light. Throughout all this long period of civil injustice to the Indian, he found his truest friends and most just advocates in the Army; and to the officers of the Army, such as Crook, and Leavenworth and Sanborn, the Indian gave his confidence without betrayal.
17. "To exercise exclusive legislation over the (District of Columbia) and over all places purchased for the erection of forts, magazines, arsenals, dock yards, etc." A provision largely in the interest of the military establishment.

POWERS AND DUTIES OF PRESIDENT

Now, coming to the powers and duties of the President, we find, that after he swears to *preserve, protect,* and *defend* the *Constitution of the United States,* he is given, as his first named power, the command of the Army and Navy, and as his last named duty he is required to commission all the officers of the United States. In addition, he is empowered to inquire into the state of affairs, military as well as otherwise, and to keep Congress informed upon the matter; to convene Congress in a military or other emergency; and (Sec. 4) to protect each state *against invasion* and (upon its call) *from domestic violence.*

Very early following the ratification of the original document, the first Congress proposed ten amendments which, by the necessary ratification by the states, became a part of the basic document. These ten amendments dealt almost exclusively with individual rights, and represented the effort of the states to conserve and safeguard the liberties of the people. It is interesting to note that, having provided in the first amendment for freedom of religion, freedom of speech, freedom of the press, and freedom of assembly, our forefathers then wrote this second amendment: *"A well-regulated militia being necessary to the security of a*

free state, the right of the people to keep and bear arms shall *not be infringed*."

We find in the fifth amendment a recognition of the gravity of the military obligation of the citizen. This amendment safeguards the rights of citizens accused of crimes; but, while citizens in general may be held to answer for capital or other high crimes only after indictment before a jury, this protection is specifically excepted if the citizen be in the military service of his country in time of war and public danger.

In brief, although the first Congress was concerned, almost exclusively, in the conservation of *individual rights*, it specifically abrogated certain of those rights in favor of the more weighty obligation or military service to the nation.

An explanatory word seems timely at this point. Wherever the framers of the Constitution used the word "Militia," they had reference to the "whole body of citizens capable of bearing arms." The early laws under the Constitution provided for the annual muster,[2] inspection and brief training of all such citizens. These laws further required each citizen to provide his own arms, including a stipulated minimum of ammunition. Throughout the long and eventful history of the Republic, the provision made by the framers of the Constitution for the citizenry to defend and support the state by their armed strength has never been questioned. This principle was identically invoked by President Washington calling 15,000 men to the colors for the purpose of quelling an insurrection, and by President Wilson in calling four million men for the World War, and by other presidents in a dozen other crises.

WASHINGTON'S PRONOUNCEMENT

Referring now to certain external evidence, let us hear the pronouncement of the most eminent signer of the Constitution.

General Washington, writing to the governors of the several states, said there were four things which he conceived to be essential, not only to the well-being, but also to the very existence of the United States as an independent power. These four things are (1) An indissoluble union of the states under one federal head; (2) A sacred regard to public justice; (3) *The adoption of a proper peace establishment;* and (4) The prevalence of a pacific and friendly disposition among the people of the United States.

In amplifying his views as to a proper *peace establishment*, he continues:

"It is necessary to say but a few words on the third topic proposed, and which regards particularly the defense of the Republic; as there can be little doubt that Congress will recommend a proper peace establishment for the United States, in which a due attention will be paid to the importance of placing the *militia* of the Union upon a regular and respectable footing. The militia of this country must be considered as the *palladium of our security*, and the first effective resort in case of hostility. It is essential, therefore, that the same system should prevade the whole; that the formation and discipline should be absolutely uniform, and that the same species of arms, accoutrements, and military apparatus, should be introduced in every

[2] Similar to the Defense Test of recent years.

part of the United States. *No one, who has not learned it from experience, can conceive the difficulty, expense, and confusion, which result from a contrary system.*"

THE NATION'S PROPER DEFENSE POLICY

From the foregoing, it is seen that the Constitution was written with certain very definite convictions regarding the new nation's proper defense policy. The *necessity* for a definite defense policy was, of course, never questioned; no group of people have ever organized themselves into a community without providing for their community safety, external and internal.

Very briefly, then, the "Constitutional Theory of National Defense" is found to be this:

1. A small Regular peace establishment, to serve as the organizational and training nucleus for the military man-power of the nation;
2. The universal obligation of the citizenship to render military service to the Nation in emergencies;
3. The uniform training and equipment of the militia (citizenship) in accordance with, but to a lesser degree than, the small regular establishment;
4. This militia (citizenship) training to lead toward the ideal sought by the founders of the Republic, and recently expressed by a President of the United States as "a nation trained and accustomed to arms."

The National Defense Act of 1920, the law under which the Nation operates today, is the sane and logical expression of the constitutional policy. It provides for a small Regular Army, a partially trained and equipped National Guard, and a continuing group of rudimentally trained militia leaders, known as Organized Reserves. These Reserves, as has been the policy for two-thirds of a century, or since 1862, are to be composed of young men of more than average endowments, who receive in time of peace, concurrently with their general education, the basic or primary training for possible military leadership.

A Salute to the Country's Reservists

"FIFTY quit Wall Street for fifteen days at camp. . . ." How quietly this reserve training is going forward. How naturally it seems to fit into our national life.

Yet, if one casts back his memory to the pre-war days when small-minded Southern statesmen in the House were combining with Mr. Bryan to hamstring any real plan for American defense, it is at least evident that we have not failed to profit in some ways by the lessons of the World War. It may be admitted that we have not taken our full measure of education in the virtue of preparedness. We will grant that pacifistic opinion has been more vocal and more effective than the hard sense of our war experience. Yet something is being done day by day, as the exit of these Wall Street reservists shows.

That it is being done is due not only to Army and departmental men

at Washington. These soldierly minded people have kept grimly at it, making the best of insufficient powers and inadequate appropriations. They would have done the job, perhaps, but they could not have done it so well had they not been helped by the intelligence and fiscal sinews of civilian organizations like the Training Camps Association.

But, above all, they have been helped by the spirit of the reservists themselves. Thousands of these young men have cheerfully devoted their vacations to the hard work of the camps. There has been no complaint and no evasion. Nor has there been any play for public admiration. With the horrible lessons of unpreparedness still clear in mind, these young Americans are seeking military training not only as a duty to the country but also as a duty to themselves.—*New York Post.*

Heard in Reserve Circles

THE Officers' Reserve Corps still needs qualified personnel for all grades in the Medical, Veterinary, Coast Artillery, Military Intelligence and Air Corps, in the Field Artillery, the Chemical Warfare Service, and the Ordnance Department. There are vacancies in several grades in the Chaplains' Corps, Dental Corps, Medical Administrative Corps, and the Engineers. In all other branches and services the quota is filled. However, second lieutenants are still accepted from the R. O. T. C. and C. M. T. C. for most branches.

IF ALL THE damaging effects of the economy program as applied to the conduct of the Army were assembled into one book there would result a large and interesting volume. The cautious rumblings on the topic heard in the Army are not stimulated by any desire to "raid the treasury," but because of unsatisfactory conditions. One report, among many, is to the effect that for the second time in a year the office force of the 96th Division has been reduced, resulting in a serious handicap to the efficient conduct of this Reserve headquarters. The last time three staff sergeants were removed in order to save commutation amounting to $1.65 per day per man. And how about the munificent sum of $5 being allowed for a year's plumbing repairs for a large permanent regimental post of the Regular Army?

Military Notes on Foreign Armies

Furnished by the Military Intelligence Division, G. S.

China

Operation of Bandit Bands

For years banditry in China has been accepted by both the Chinese and foreigners as an institution which had to be reckoned with in any undertakings, especially those away from the treaty ports. In fact, it might be said with equal truth that the institution of banditry goes back for centuries, for most of the ancient, isolated towns in North China are either surrounded by walls for protection against bandits, or have in their immediate vicinity strongholds to which the population may retire on occasions.

There is a somewhat wide-spread impression among foreigners fostered by the Chinese that banditry in China is the occasional occupation of a limited number of lawless people and as such is of no greater significance than the activities of similar persons in other countries. This is not correct, however, for, on the contrary, it is a highly organized industry which has existed since time immemorial, including in its ranks many former officers and soldiers of the army. In addition many of the members of the bandit bands on occasions transfer either as individuals or as units of companies, battalions or more and are duly incorporated into the army.

While in general the equipment of the bandit bands is inferior, occasionally organizations are met with which are extremely well equipped. Recruits have always been easily obtained from amongst younger sons whose inheritance in lands is insufficient for their support and from ex-soldiers, deserters, outlaws and captives. Arms and ammunition are secured by purchase, by theft, or from deserters from the army.

While it is impossible to arrive at any accurate estimate of the number of bandits in China, some have esticated that there are 200,000 in all, armed and, partially at least, equipped.

These robber bands are known by different names in different parts of China, the most famous being the Hung Hu Tzu, or Red Beards, which is the common name for the Manchurian bandit. Another well-known name is that of "tufei" or robber.

In general these bands have a systematic organization, maintaining agents in population centers with whom the leaders have excellent means of communication. From these agents information is obtained of the income and financial condition not only of individuals but of entire communities, who may be either selected for robbery or pillage or for large-scale blackmail operations.

Bandits have played an important part in many of China's wars, both foreign and domestic. The Japanese made use of them as partisan bands in the Russo-Japanese War. In civil warfare, army commanders frequently enter into alliances with bandit chiefs and on other occasions many of the so-called armies are in reality made up

of temporarily unified bandit organizations.

An operation recently presented itself for a rather extensive observation of one of these bands in Eastern Yunnan which it is believed is fairly typical. The strength of this band was approximately 170, of whom some 70 men were armed with edged weapons only. There were approximately twelve modern military rifles and carbines in the band, the rest of the bandits carrying converted muzzle loader caliber-60, Mauser single-shot low velocity breech loader caliber-45, and Mauser tubular magazine bolt action low velocity repeating rifles caliber-45, in about equal numbers. Ammunition consisted on an average of some 40 rounds per man. There were but four pistols and revolvers; no machine guns or automatic rifles.

The band was organized into a battalion of two companies of three platoons of three squads of approximately eight men each. The officers consisted of a commander, chief of staff, executive officer, battalion commander, company commander, platoon leaders, and squad leaders.

Most of the men were young, active Chinese, distinguished only by physical fitness and averaging probably about 23 years of age. There were, however, a number of boys under 16. All the officers and a large proportion of the men had had military experience. The senior officers were all men in their thirties and the chief, executive and chief of staff formed a sort of council for directing the band. Discipline was purely a personal matter. The only one whose orders were obeyed immediately and without question was the chief. The rest of the officers when issuing orders did so in a good-natured manner and were obeyed slackly. The outposts, however, were apparently keen and alert and battle discipline seemed very good.

In general the tactics of the band in its operations followed the ordinary principles of minor tactics. March discipline was poor and no effort was made to preserve military formation. This particular band did not seem to have any base for supplies or any general rendezvous. They lived on the country and traveled from place to place as the will of the commander seemed to dictate.

Spain

System of Promotion of Officers

Two schools of opinion have existed in the Spanish army on the subject of promotion for many years; advocates of one of these insisted on promotion for war merit only, others believed in promotion by seniority.

Each one of these systems undoubtedly has many factors which recommend it. Ambitious officers, advocates of the first, sought duty in Morocco where opportunity might present itself for rapid advancement in the military hierarchy. The defect of this system, however, might result in the promotion of officers of high courage only, lacking in other necessary qualifications. On the other hand, with promotion by seniority alone with a large proportion of the army engaged in active service others who remained at home in Spain would receive all of the advantages of casualties in action and deaths incident to the long-extended Moroccan campaign.

The first system, that of promotion by war merit, has been in effect for

some years and many officers who have been for a long time in Morocco have attained rapid promotion by gallantry in action. General Franco, an officer of only 34 years of age, is a marked example.

Many years ago the artillery and engineers of the Spanish army entered into a compact to refuse promotion except by seniority, accepting instead of promotions for gallantry the award of war crosses which gave them certain annual increases in salary which were practically equivalent to what the increase in rank would bring.

In order to end this unsatisfactory state of affairs, General Primo de Rivera had a decree published recently which discontinued promotion by war merit beginning October 1, 1926. On and after that date promotion was to be by seniority and by a system of election in proportion to the vacancies occurring annually, as follows:

1/4 of vacancies of general;

1/5 of vacancies of colonel or lieutenant colonel;

1/6 of vacancies of major;

1/10 of vacancies of captain.

In order to be eligible for promotion to the vacancies reserved to election, these conditions must be fulfilled: to be in the first half of the promotion list, to have been declared apt for promotion by seniority, to have passed the preparatory course for promotion, and to have sufficient merits. The merits are computed by a classifying board which submits to the ministry of war a list of the most qualified officers for promotion in the months of November and December of each year. In estimating the merits of applicants the following qualifications among others were considered: Special crosses granted to the officer such as those of San Fernando, Military Medal, or Maria Cristina; physical aptitude; moral character and energy; professional culture; special knowledge such as completion of the Escuela Superior de Guerra.

The Guardia Civil

One of the most famous military police forces in the world is the Guardia Civil of Spain, ranking with the Carabineros of Italy. The official Spanish *Diario* recently published the details of the organization of this force which now consists of 1,245 officers, 26,224 other ranks and 5,557 horses.

This force is one of which Spain can indeed be proud. They are well paid, well dressed, they are always on the alert and most courteous upon all occasions. They give a wonderful sense of security to the traveler in Spain for wherever one goes a pair of these civil guards are ever ready to aid and protect one.

The organization is paid by the ministry of the interior but as regards its organization, personnel, armament and discipline, it is administered by the war department. It is divided into 28 tercios or regiments with headquarters in the important provinces and is considered as an auxiliary of the army. The corps consists of Infantry and Cavalry forces grouped under the command of a colonel and subdivided into battalions commanded by lieutenant colonels. Almost every village in Spain has a post of Guardia Civil.

The Guard is recruited by voluntary enlistment and is composed of discharged army and navy enlisted personnel, noncommissioned personnel

being preferred; officers join by voluntary transfer from the army. The force today is commanded by a lieutenant general who has one major general and four brigadier generals as assistants. The troops are divided between the Infantry arm and the Cavalry arm, there being 21,000 of the former and 5,200 of the latter.

Finland

The Bergmann Gun and Attachment The Finnish army has recently adopted the Bergmann automatic gun (sometimes referred to as the Bergmann pistol) and a special attachment, developed and manufactured in Finland, for firing blank cartridges.

The Bergmann is about the size of the Thompson gun, though somewhat lighter; the magazine holds 25 shells.

The modification for blank cartridges consists of a specially constructed barrel enlarged and threaded at the end of which is screwed a cap whose front surface is perforated by a number of small holes about four millimeters in diameter. The blank cartridge used has a soft pine wood bullet-shaped pellet instead of a paper slug. The propelling charge drives the wood pellet with great force through the perforations in the barrel cap so that the pellet is shredded into many very small pieces as it leaves the gun which fall to the ground three or four feet from the barrel. Experiments have shown that if fired at a man's hand held two feet from the muzzle the only sensation felt is a momentary sharp tingling.

The device has been in use for some months and has been found most satisfactory. It is considered entirely safe and no accidents, which so frequently happen with the usual type of blank cartridges, have been reported. The gun forms part of the equipment of the civil guard, none having been so far issued to the army. It is reasonably accurate up to 40 meters and has a rate of fire of about 300 to the minute.

Poland

Gas and Smoke from Tanks At the maneuvers held this summer at the camp of instruction at Rembertow near Warsaw the use of combat gas and smoke were studied in detail.

One of the novelties which marked these maneuvers was the use of a new kind of tank. This tank, furnished with cylindrical reservoirs and surmounted by megaphone-shaped funnels, constitutes the apparatus for emitting protective smoke. At the word of command compressed gas from the reservoirs was emitted in dense clouds, creating a curtain in front of the firing line of the Infantry which permitted the men to advance without being seen. The experiment was entirely satisfactory.

Notes on the Infantry Association

Membership in the Association

WE are delighted with the responses we have had to our appeal for new memberships and renewal of lapsed dues. The presidents and secretaries of the branch association have lent a decidedly helping hand and as a result many regiments are now 100 per cent strong in paid-up memberships. Others have promised to be in line by December 1, when we will prepare a list of the banner branches of the Association for publication in the January INFANTRY JOURNAL.

In addition to the representation with the Regular Army, our friends on duty with the civilian components have been at work. New members have been enrolled from practically every State during the past month. Those who procured new members directly and mailed in the initial dues, during the past four weeks and who comprise the October honor roll are:

Capt. Paul D. Connor, Inf., Instructor, 148th Inf., Ohio N. G.	11
Capt. E. T. Wheatley, Inf., Instructor, 140th Inf., Mo. N. G.	4
Capt. B. H. Hensley, Inf., Instructor, 149th Inf., Pa. N. G.	2
Col. John B. Schoeffel, Inf., Chief of Staff, 76th Div.	2
Capt. V. N. Diaz, Inf., Instructor, 186th Inf., Ore. N. G.	1
Col. T. A. Pearce, Inf., Chief of Staff, 88th Div.	1
Capt. Lee V. Hunnicutt, Inf., Instructor, 90th Div.	1
Lieut. L. E. Lilley, Inf., Instructor, 112th Inf., Pa. N. G.	1

ⓘ

List of Branches of the Association

WE are omitting from this issue the list of branches of the Infantry Association since all reports on recent elections of officers have not yet been received. We await reports from several branches, expecting them before November 10 when the December number will be prepared for the press.

ⓘ

Plans for Future Articles

THERE are several plans for the INFANTRY JOURNAL that are under way which we shall announce at this time.

An officer with considerable experience in the training of small units of Infantry is preparing a series of articles of an instructional nature on the tactics of small Infantry units—the squad, section, platoon and company—to illustrate the combat principles enunciated in training regulations. This series will begin in an early number of the INFANTRY JOURNAL.

It is planned to have the March issue of the INFANTRY JOURNAL a special Philippine number, with scope and content similar to the issues that we have produced for Hawaii and Panama.

An early issue of the INFANTRY JOURNAL will contain an article entitled, "The Infantry in Congress." It may not be known generally that there are approximately 45 members of Congress who have at one time or another served in the Infantry of the Army.

We anticipate publishing complete reviews of the annual reports of the Secretary of War, Chief of Staff and Chief of Infantry in the December number. Owing to the release date of the former report the INFANTRY JOURNAL will not be distributed until about December 5.

$1,500 Prize for Music Suitable for An Infantry Song

The INFANTRY JOURNAL announces a contest for the music for "The Infantry Song" with a prize of $1,500.00 cash for the entry adjudged the winner.

The Infantry has for years felt the need of a song that it can call its own. Many attempts have been made to produce it, but none has been successful.

The largest body of Infantrymen ever assembled in the history of America was demobilized a few years ago. Those millions of Doughboys had a spirit that has been nurtured in hearts of American Infantryman for 150 years; that spirit needs to be translated into music and song for the Infantry of the present and of the future.

As expressed by Sergeant McPartland in his verses:

They're goin' to hav' 'em a he-man's song
For th' good old Infantry;
A song to sound through th' halls of time;
An' give to posterity,
The sturdy souls, an 'the spirit bold,
An' th' brave an' honest hearts of gold
Of th' Fightin' Infantry.

GENERAL CONDITIONS OF THE CONTEST:

1. The contest is opened November 1, 1926, and is to be closed at noon on July 1, 1927.

2. The object of the contest will be to produce original music, in march time, that will be suitable for a song (with chorus) for the Infantry. The music to be simple, catchy and capable of being learned readily by the rank and file, and at the same time that will be stirring and full of pep, but free from jazz.

3. The prize of $1,500 will be paid to the contestant whose music is judged by a committee of judges appointed by the Executive Council of the Infantry Association as appropriate for the Infantry Song, subject to the approval of the Council. The Council reserves the right to reject any and all manuscripts entered in the contest.

4. There will be no limit on the number of entries submitted by any contestant. Citizens of the United States, or those who have declared their intentions to become citizens, will be eligible.

5. The manuscripts shall be legibly written. The melody is to be arranged for piano or for band. Words suggested for the song may accompany the music.

6. Contestant will be required to subscribe to all conditions of the contest on approved form, furnished upon request by the INFANTRY JOURNAL, before entry or entries will be accepted.

7. The music judged the winner of the contest will become the property of the U. S. Infantry Association, which reserves all rights to publication. No general distribution or sale will be made until suitable words for the music, approved by the Executive Council, shall be announced. A royalty will be paid the composer.

8. The usual rules concerning nom de plume will be adhered to. Only the name of the successful competitor will be published.

THE UNITED STATES INFANTRY ASSOCIATION

"The object of the Association shall be to promote the efficiency of the Infantry arm of the military service of our country by maintaining its best standards and traditions, by fostering esprit de corps, by the dissemination of professional knowledge, and by exchange of ideas as to the utilization of such knowledge with particular reference to the rôle of Infantry in modern war."
—Article III of the Constitution.

OFFICERS

President—MAJOR GENERAL HARRY A. SMITH
Vice-President—BRIGADIER GENERAL BRIANT H. WELLS
Secretary—MAJOR PAUL J. MUELLER
Additional Members of Executive Council—COLONEL JOHN J. TOFFEY, COLONEL ALEXANDER J. MACNAB, JR., LIEUTENANT COLONEL WILSON B. BURTT, LIEUTENANT COLONEL ASA L. SINGLETON, MAJOR JOSEPH A. ATKINS, AND MAJOR WILLIAM A. GANOE.

CONDITIONS OF MEMBERSHIP

All commissioned officers in good standing, or former commissioned officers of honorable record of the regular or volunteer military or naval service, including National Guard and Officers' Reserve Corps, are eligible for membership in the Association. Membership dates from the first of month following the date of election.

Annual dues, and subscription to the INFANTRY JOURNAL, $3.00 a year, payable in advance.

All communications should be addressed to the Secretary, the United States Infantry Association, Infantry Building, Washington, D. C. Cable address: Infantry, Washington.

Change of Address—For Your Convenience

The subscriber is requested to note on this month's wrapper whether his address is correct. There have been so many changes in addresses during the past two months that many INFANTRY JOURNALS are now going out with old addresses. To insure delivery of your JOURNAL promptly, please note hereon your new address and mail it to the INFANTRY JOURNAL, 1115 17th St., N. W., Washington, D. C.

Name .....

New address .....

.....